

TRAFFIC SPEED REPORT NO.87

NOVEMBER 1969 – NUMBER 32



BY

S.S. HEJAL

JHRP

JOINT HIGHWAY RESEARCH PROJECT

PURDUE UNIVERSITY AND
INDIANA STATE HIGHWAY COMMISSION



TRAFFIC SPEED REPORT NO. 87

To: J. F. McLaughlin, Director
Joint Highway Research Project

From: H. L. Michael, Associate Director
Joint Highway Research Project

November 18, 1969

File: 8-3-3

Project: C-36-10C

The attached Progress Report No. 87 on Traffic Speeds is the report of the 1969 study of free-flowing automobile and truck speeds on rural, tangent, level sections of Interstate, other 4-lane and 2-lane highways in Indiana. The study and report have been performed by Mr. Salim S. Hejal, a Graduate Instructor in Research on our staff, under the direction of Professor Michael.

The results indicate an increase of about 3.4 mph in the average speed of all passenger cars and an increase of about 1.7 mph for all heavy trucks to those speeds noted in the 1968 study. A regression analysis of the speed data for the past eleven years indicated that the speed trend for all classes of vehicles on all classes of highway studied is an increasing one. Average speeds for passenger cars over all classes of highway have increased 1.03 mph annually and for all heavy trucks over all classes of highway the increase has been 0.97 mph annually.

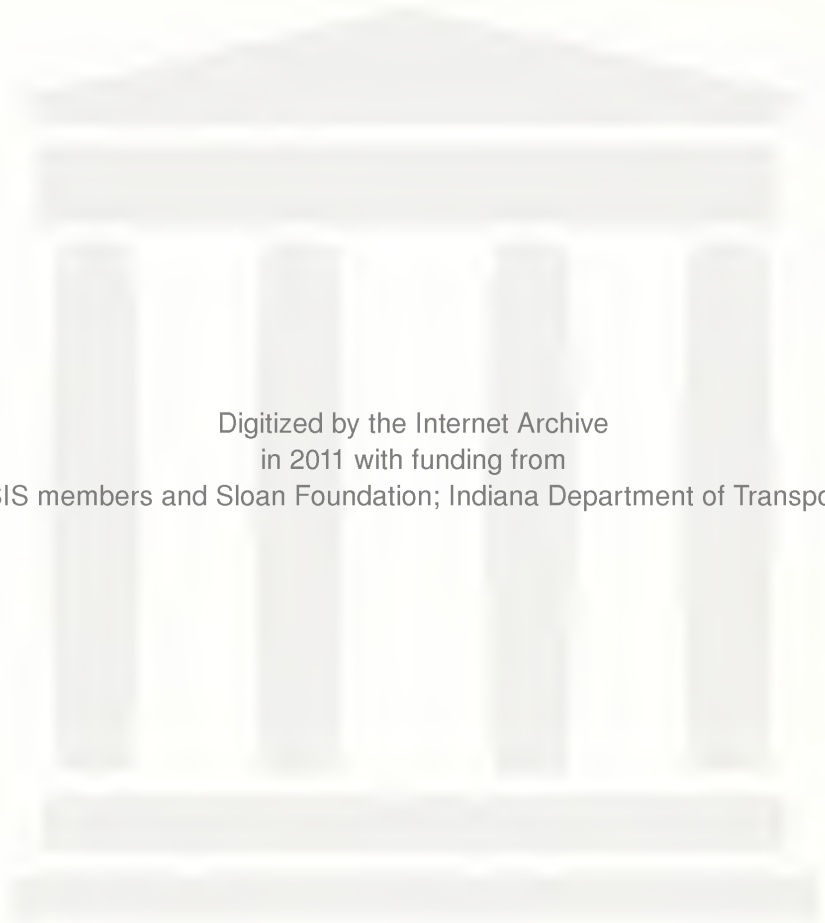
Copies of this report are requested for release to the Indiana State Police, the Indiana Traffic Safety Council and the Indiana Office of Traffic Safety as is normal procedure for these reports. Copies will also be sent to the Bureau of Public Roads and several Departments within the ISHC. The report is presented for the record and for release as noted.

Respectfully submitted,

Harold L. Michael
Harold L. Michael
Associate Director

HEW:maz

cc: F. L. Ashbacher	R. H. Harrell	C. F. Scholer
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Progress Report

TRAFFIC SPEED REPORT NO. 87

by

Salim S. Hejal
Graduate Instructor

Joint Highway Research Project

File No.: 8-3-3

Project No.: C-36-100

Purdue University
Lafayette, Indiana
November 18, 1969

ABSTRACT

This report is the annual continuing study of the speeds of vehicles on rural Indiana highways. Observations of spot speeds were taken on interstate, other four lane, and two lane highways throughout the state during the months of July and August, 1968.

Analysis of the speeds showed the over-all average speed for passenger cars was 67.9 miles per hour. The over-all average speeds for trucks on the three types of highways was 59.5 miles per hour.

A regression analysis on the available results of the past eleven years showed an annual increase of 1.03 miles per hour for the over-all average speed of passenger cars and 0.97 miles per hour for the over-all average speed of heavy trucks.

TRAFFIC SPEED REPORT NO. 87

This report is an analysis of spot speed observations made during July and August 1969. All observations were made of free-flowing vehicles on level, tangent sections of rural Indiana highways during daylight and under favorable weather conditions. The same locations on selected Federal and State highways as used in 1968 were used again. Most of these locations have been the same for many years. Stations were classified as - two lane, four lane, or interstate highways. A representative sample of traffic speeds was obtained at each of the four stations in each classification. The specific site of each station was as follows: (see Figure A)

Interstate Highways

- | | |
|---------|--|
| 1. I-69 | 3.3 Miles South of Junction of S. R. 18 |
| 2. I-65 | 1.0 Miles West of Junction of S. R. 334 |
| 3. I-74 | 1.0 Mile East of Junction of Post Road |
| 4. I-65 | 2.9 Miles North of Junction of S. R. 160 |

Four Lane Highways

- | | |
|-------------|---|
| 5. U. S. 31 | 1.2 Miles South of Junction of S. R. 38 |
| 6. U. S. 52 | 1.0 Mile East of Junction of S. R. 28 |
| 7. U. S. 41 | 1.0 Mile North of South Junction of S. R. 2 |
| 8. U. S. 52 | 1.0 Mile West of Ellettsville |

Two Lane Highways

- | | |
|--------------|------------------------------|
| 9. U. S. 41 | 1.0 Mile North of Boswell |
| 10. S. R. 43 | 2.0 Miles South of Chalmers |
| 11. U. S. 31 | 3.0 Miles South of Rochester |
| 12. S. R. 25 | 0.7 Miles West of Americus |

The vehicles were classified as passenger cars or trucks. Passenger cars were further classified into two groups - Indiana or Non-Indiana and the analysis was performed as thus classified and combined. The trucks were also classified into two groups - Light (less than 5000 pounds gross weight) or Heavy (equal to or more than 5000 pounds gross weight), and again the analysis was performed as classified and combined.

The maximum speed limits in Indiana are as follows: 70 miles per hour on interstate highways and 65 miles per hour on other highways, unless otherwise posted. The stated maximum speed limits were applicable at all interstate, four lane and two lane stations of this study.

Equipment and Field Procedure

The observations for this report were obtained by use of an "Electromatic" Radar Speed Meter, built by Automatic Signal Division, Eastman Industries, Inc., East Norwalk, Connecticut. The meter was placed approximately four feet from the edge of the pavement at an angle less than 10° with the highway center line. Speed inaccuracies are negligible at small angles (less than 10°) and therefore, corrections for angle were unnecessary.

At the beginning of the study the accuracy of the meter was checked; a constant discrepancy of minus two miles per hour was found and hence all readings of speed were corrected accordingly.

Results of Analysis

The data collected were analyzed and are summarized in Tables 1 to 12 in the Appendix. Tables 13, 14, and 15 summarize the data for the three types of facilities: interstate, four lane, and two lane. Table 16 is the summary for all facilities observed.

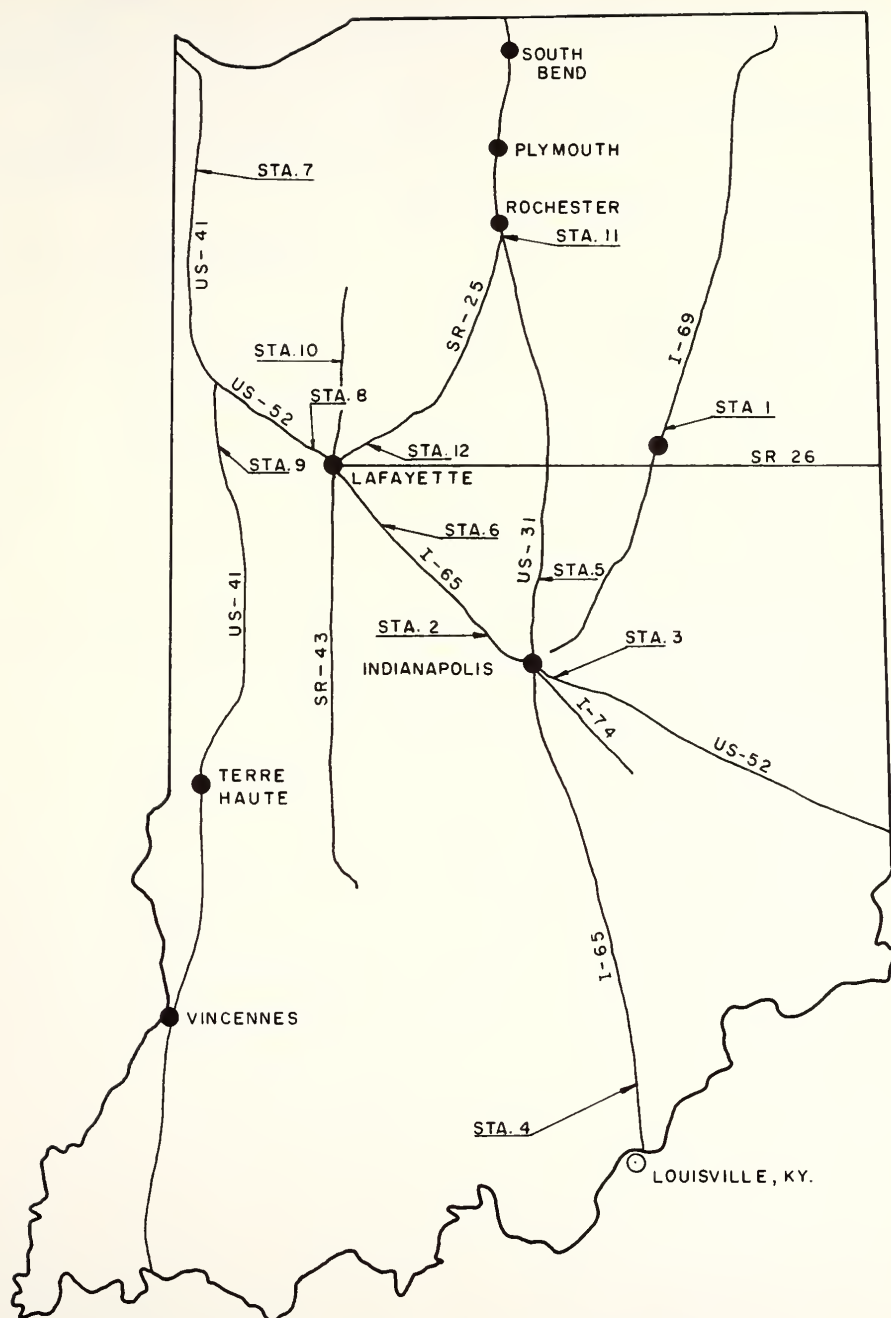


FIG. A - LOCATIONS OF SPEED-STUDY STATIONS

Figures 1 to 16 in the Appendix show the accumulative speed curves for each of the stations studied.

The average speed for each classification of vehicles on each type of highway for this study was as follows:

	<u>Interstate</u>	<u>Four Lane</u>	<u>Two Lane</u>
<u>Passenger cars:</u>			
Indiana	70.2	67.7	64.7
Non-Indiana	71.2	68.3	64.6
85 percentile (all)	76.6	74.6	71.9
<u>Trucks:</u>			
less than 5000 lbs.	65.3	64.0	60.5
5000 lbs. or more	59.9	58.0	55.9

The percent of vehicles exceeding the speed limit for each classification of vehicle and each type of highway was as follows:

	<u>Interstate</u>	<u>Four Lane</u>	<u>Two Lane</u>
<u>Passenger cars:</u>			
Indiana	48.9	65.4	45.0
Non-Indiana	57.6	70.1	45.4
<u>Trucks:</u>			
less than 5000 lbs.	17.1	50.0	24.9
5000 lbs. or more	5.5	13.8	6.7

The percent of vehicles traveling 5 miles per hour or more above the speed limit for each case was as follows:

	<u>Interstate</u>	<u>Four Lane</u>	<u>Two Lane</u>
<u>Passenger cars:</u>			
Indiana	20.6	36.6	22.5
Non-Indiana	25.0	36.7	21.0
<u>Trucks:</u>			
less than 5000 lbs.	10.4	18.5	15.7
5000 lbs or more	0.8	2.0	1.1

The results of this study and similar studies conducted since 1959 are tabulated in Table A. A linear regression analysis on these results was conducted and a summary is given in Table B.

The hypothesis $\beta = 0$, where β is the slope of the linear graph of speeds versus year (annual trend), was tested and it turned out significant for all classifications at the 5% level. A second hypothesis $\beta = 1.0$ was tested to draw limits on the annual trend. It was not significant for all the 9 cases, that is the slope is not significantly different than 1.0, mph/year for a 5% level of significance. Finally, the hypothesis $\beta = 1.5$ was tested, it was significant for all cases except for the 85%tile of interstate passenger cars.

A graphical representation of tables A and B is given in Figure B.

TABLE A

SUMMARY OF SPOT SPEED OBSERVATION

ON INDIANA HIGHWAYS

(Free-Moving Vehicles on Level, Tangent Sections)

		Passenger Cars				Trucks	
		Ind. Mean	Non-Ind. Mean	All Mean	All 85%	Light Mean	Heavy Mean
Two-Lane Highways							
Aug.	'59	55.6	55.3	55.9	63.2	49.7	46.7
Sept.	'60	55.7	55.6	55.6	62.0	53.0	48.1
Aug.	'61	56.2	55.7	55.9	62.2	50.4	48.9
Aug.	'62	56.7	57.5	57.0	63.7	55.1	49.3
June	'63	56.9	57.7	57.2	64.0	52.3	47.9
July	'64	59.1	60.1	59.5	66.6	53.9	51.7
Sept.	'65	58.2	57.9	58.1	64.6	54.3	50.6
Sept.	'66	60.1	59.5	59.9	65.5	55.4	50.3
Aug.	'67	61.0	61.9	61.3	68.0	53.8	51.9
June	'68	61.2	62.4	61.5	68.1	54.4	54.2
July	'69	64.7	64.6	64.7	71.9	60.5	55.9
Four-Lane Highways							
Aug.	'59	58.4	60.1	59.1	64.5	50.0	53.1
Sept.	'60	59.5	60.2	59.7	65.3	54.3	51.3
Aug.	'61	57.6	57.6	57.6	63.5	53.6	50.3
Aug.	'62	59.2	59.3	59.2	65.8	54.7	51.3
June	'63	60.4	60.6	60.5	66.3	55.0	48.6
July	'64	61.4	63.0	62.0	69.4	55.1	54.5
Sept.	'65	60.1	62.2	61.0	67.2	55.5	53.1
Sept.	'66	63.1	64.3	63.5	69.0	58.7	52.0
Aug.	'67	64.3	65.7	65.0	70.3	57.0	54.0
June	'68	64.2	66.2	64.9	70.4	58.4	55.4
July	'69	67.7	68.3	67.9	74.6	64.0	58.0
Interstate Highways							
Aug.	'61*	56.7	56.9	58.2	64.0	55.9	52.5
Aug.	'62	58.7	59.1	58.9	65.6	55.3	52.7
June	'63	59.7	61.2	60.3	66.3	55.2	51.5
July	'64	61.9	64.0	62.7	70.5	56.3	54.6
Sept.	'65	61.2	62.1	61.5	67.7	54.9	53.6
Sept.	'66	62.1	63.3	62.5	68.5	56.1	54.9
Aug.	'67	66.4	68.3	67.1	73.6	60.0	56.9
June	'68	66.2	67.9	66.8	72.4	60.5	57.9
July	'69	70.2	71.2	70.6	76.6	65.3	59.9
All Highways							
Aug.	'59	56.5	58.4	57.4	63.5	50.6	47.8
Sept.	'60	57.3	57.6	57.4	63.7	53.7	49.4
Aug.	'61	56.9	56.7	57.3	63.4	53.1	50.3
Aug.	'62	58.2	58.7	58.4	65.1	54.5	51.2
June	'63	59.0	59.9	59.3	65.2	54.1	49.5
July	'64	60.3	62.4	61.5	69.2	55.2	53.7
Sept.	'65	59.9	60.9	60.3	66.7	54.9	52.6
Sept.	'66	61.8	62.4	62.0	68.0	56.7	52.7
Aug.	'67	63.9	65.8	64.5	71.4	56.3	54.6
June	'68	63.8	65.0	64.5	70.9	57.2	55.0
July	'69	67.3	68.8	67.9	75.1	62.7	57.9

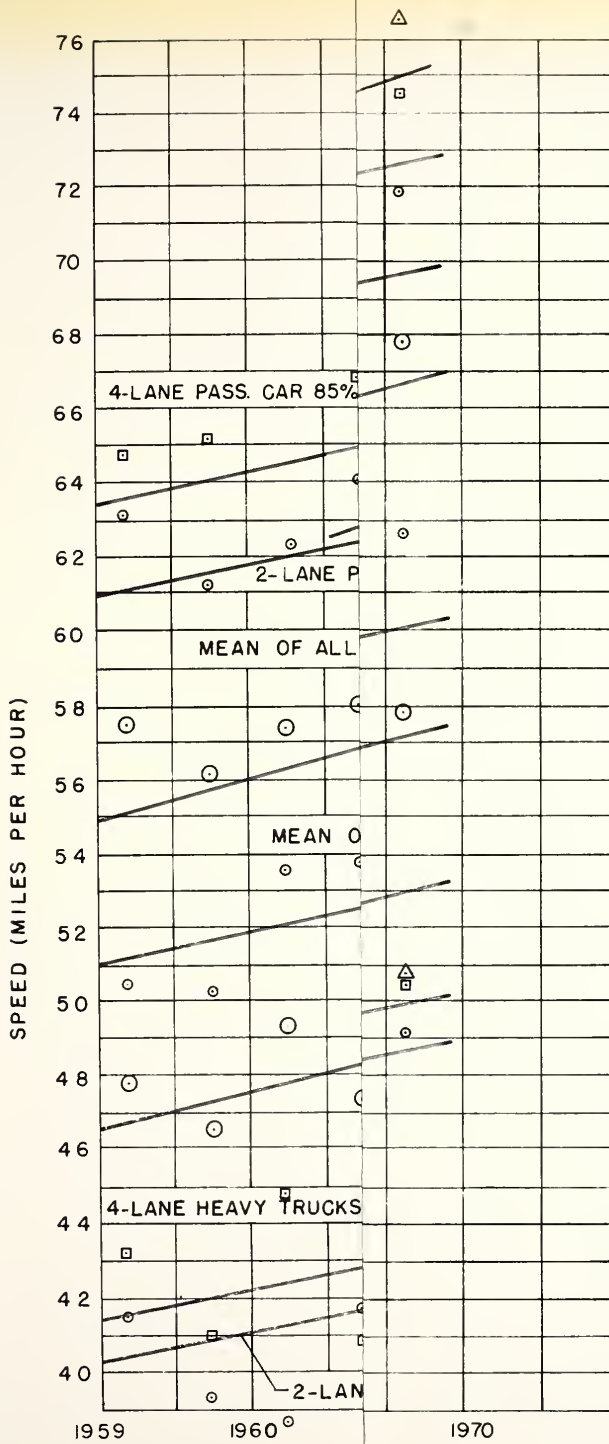
* Data was only for three stations on Interstate Highways

TABLE B. SUMMARY OF LINEAR REGRESSION ANALYSIS

Classification	No. of Observ.	b_0	b_1	R^2	$S_{E.L}$	Hypothesis Testing		
						$\beta = 0.0$	$\beta = 1.0$	$\beta = 1.5$
Interstate Passenger Cars 85%	9	-20.88	1.390	.850	.222	S*	** NS	** NS
4 Lanes Passenger Cars 85%	11	14.79	.831	.792	.142	S*	** NS	S*
2 Lanes Passenger Cars 85%	11	11.77	.838	.841	.121	S*	** NS	S*
Mean of All Passenger Cars	11	- 5.06	1.03	.919	.105	S*	** NS	S*
Mean of All Light Trucks	11	3.25	.814	.802	.135	S*	** NS	S*
Mean of All Heavy Trucks	11	- 9.99	.971	.907	.105	S*	** NS	S*
Interstate Heavy Trucks 15%	9	-12.77	.945	.870	.140	S*	** NS	S*
4 Lanes Heavy Trucks 15%	11	- 2.58	.755	.781	.134	S*	** NS	S*
2 Lanes Heavy Trucks 15%	10	- 9.85	.841	.842	.122	S*	** NS	S*

* Significant @ 5% Level of Significance

** Not Significant @ 5% Level of Significance



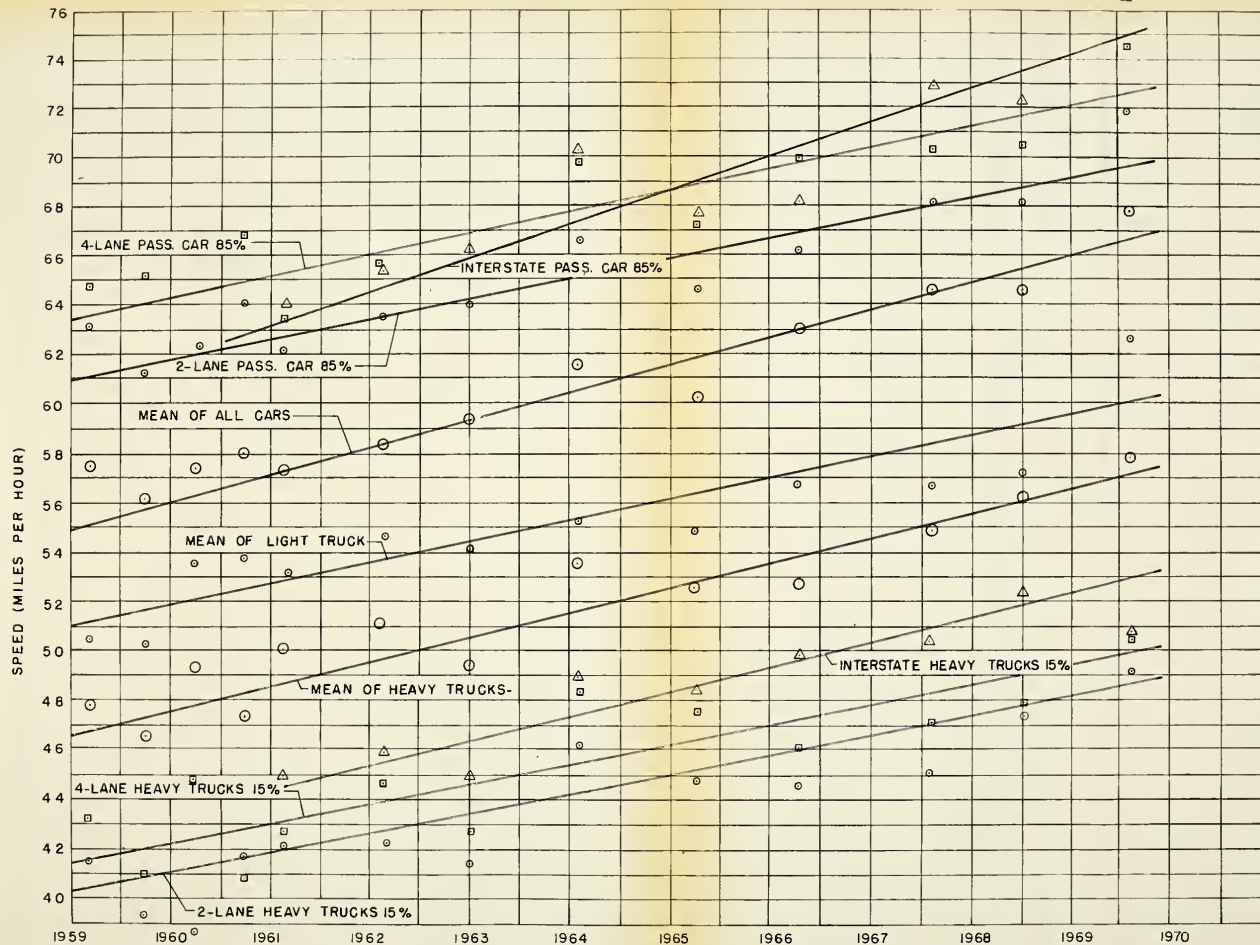


FIG.B - INDIANA RURAL SPEED TRENDS 1959 - 1969



Summary and Conclusions

The average speeds in this study were found to be 3.4 and 1.7 miles per hour faster for passenger cars and trucks respectively than the results of the previous year.

The linear regression on the results of the past eleven years proved:

1. There has been a definite increase in speed for all vehicles and highway classifications studied. The slopes of the linear graphs were significantly different from zero for the nine different speed characteristics tested, such as 85 percentiles, average speeds, and 15 percentiles for passenger cars, light trucks and heavy trucks on the three classes of highway.
2. The slopes of the linear graphs indicate the annual trends in speeds for the past decade. These trends are not significantly different from a rate of increase of one mile per hour per year.
3. The 85 percentile of passenger cars on the Interstate System was the only speed statistic not to be significant from an annual rate of increase of 1.5 miles per hour.

The increase in the mileage of high type facility highways such as the Interstate System in Indiana and the growing percentage of automobiles violating current maximum speed limits tend to support the fact that drivers select the travel speeds they consider safe irrespective of maximum speed limits.

Introduction to the Study of

It is not until we have a clear understanding of the

the aspects of the problem, that we can begin to

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APPENDIX

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Determination of Sample Size

It was desired that a 95% confidence interval of the true mean of the speeds of passenger cars should not be wider than two miles per hour. For trucks weighing 5,000 lbs. or more a 95% confidence interval with a four mile per hour band was desired.

Assuming a normal distribution of speeds and using the standard deviation of the grouped data of the 1968 study, the minimum sample size requirements was determined by:

$$N = \left[\frac{2tS}{L} \right]^2$$

N = sample size required

t = tabulated "t" value for 5/2 significance

S = estimated standard deviation

L = width of the interval

For passenger cars:

$$N = \left[\frac{2 \times 1.96 \times 6.9}{2} \right]^2 = 183 \text{ observations}$$

For trucks:

$$N = \left[\frac{2 \times 1.96 \times 6.1}{4} \right]^2 = 36 \text{ observations}$$

Note

At all stations more than 235 passenger car observations and 53 truck observations were obtained for the study reported herein.

PUBLISHED WEEKLY
Subscription price, Five Dollars Per Annum in Advance. Single Copies, Fifteen Cents.

Entered as Second-Class Matter, October 3, 1917. Postpaid at Special Rate of \$3.75 Per Annum.

Acceptance for mailing at special rate of postage provided for in Act of October 3, 1917.

Postmaster: This publication is entered as second-class matter, October 3, 1917.

Postpaid at special rate of postage provided for in Act of October 3, 1917.

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TABLE 1 SPEED DATA

Station 1 Highway I-69 Location 3.3 Miles South of S.R. 18

No. of Lanes 4 Type of Surface Portland Cement Concrete Weather Hazy

This Observation August 13, 1969 Last Previous Observation (Speed Report No. 86)

Date 11:40 - 2:15 p.m. Date July 2, 1968

Time 11:40 - 2:15 p.m. Time 9:30 - 11:30 a.m.

PASSENGER CARS				TRUCKS			
OBSERVATION	All		Non-Indiana		All		5000 pounds or more
	Last	Present	Last	Present	Last	Present	
No. of vehicles obs.	216	248	142	147	93	84	81
Average speed (m.p.h.)	67.4	71.90	66.7	71.3	58.8	61.24	58.6
Standard deviation	6.40	7.01	6.06	6.77	6.54	6.96	5.54
24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39 m.p.h.	0.0	0.0	0.0	0.0	1.1	0.0	1.2
44 m.p.h.	0.5	0.0	0.7	0.0	3.2	0.0	2.5
49 m.p.h.	1.4	0.0	1.4	0.0	5.4	3.6	4.9
54 m.p.h.	4.2	0.8	4.2	0.0	20.4	15.5	21.0
59 m.p.h.	9.3	5.24	9.2	6.1	54.8	41.7	54.3
64 m.p.h.	29.2	12.9	31.7	12.9	86.0	64.3	87.7
69 m.p.h.	63.0	35.9	69.7	41.5	97.9	89.3	98.8
74 m.p.h.	90.3	64.5	93.0	70.1	97.9	95.2	98.8
79 m.p.h.	96.8	86.3	98.6	89.8	98.9	98.8	100
84 m.p.h.	100	96.4	100	98	100	100	100
89 m.p.h.		99.6		99.3			
No. of vehicles obs.	108	127	70	77	49	43	40
Average speed	67.8	73.2	67.3	72.7	59.7	61.8	59.5
No. of vehicles obs.	108	121	72	70	44	41	41
Average speed	67.0	70.6	66.1	69.8	57.9	60.7	57.6



TABLE 2 SPEED DATA

Station	2	Highway	I-65	Location	1.0 Mile West of S.R. 334
No. of Lanes	4	Type of Surface	Portland Cement Concrete	Weather	Fair
This Observation	August 8, 1969	Last Previous Observation	June 26, 1968	Speed Report No.	86
Date	2:25 - 4:00 p.m.	Date	10:00 a.m. - 12:30 p.m.	Time	

OBSERVATION	PASSENGER CARS						TRUCKS					
	All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.	308	315	203	210	105	105	125	86	25	26	100	60
Average speed (m.p.h.)	66.5	70.32	65.9	70.1	67.7	70.7	58.4	61.2	59.9	66.0	58.0	59.2
Standard deviation	6.00	6.89	6.06	7.14	5.70	6.36	5.74	8.93	8.20	9.45	4.92	7.93
24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39 m.p.h.	0.3	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44 m.p.h.	0.3	0.0	0.5	0.0	0.0	0.0	0.0	3.5	0.0	3.8	0.0	3.3
49 m.p.h.	0.3	0.0	0.5	0.0	0.0	0.0	8.0	10.5	12.0	3.8	7.0	13.3
54 m.p.h.	2.60	0.6	3.0	0.5	1.9	1.0	22.4	24.4	28.0	11.5	21.0	30.0
59 m.p.h.	11.7	7.9	14.3	8.1	6.7	7.6	58.4	39.5	44.0	23.1	62.0	46.7
64 m.p.h.	34.1	18.1	37.9	19.5	26.7	15.2	86.4	62.8	72.0	42.3	90.0	71.7
69 m.p.h.	69.2	41.3	72.4	41.9	62.9	40.0	96.8	81.4	84.0	53.8	100	93.3
74 m.p.h.	92.9	73.0	95.1	74.3	88.6	70.5	99.2	93.0	96.0	76.9	100	100
79 m.p.h.	98.7	93.6	99.0	94.3	98.1	92.4	100	98.8	100	96.2	100	100
84 m.p.h.	99.7	97.1	99.5	96.7	100	98.1		98.8		96.2	100	100
89 m.p.h.	99.7	99.0	99.5	98.6		100		100		100	100	100
No. of vehicles obs.	147	159	100	114	47	45	72	33	16	7	56	26
Average speed	66.3	69.6	65.9	69.3	67.0	70.4	58.5	58.4	59.9	67.6	58.1	56.0
No. of vehicles obs.	161	156	103	96	58	60	53	53	9	19	44	34
Average speed	66.7	71.1	65.8	71.1	68.2	71.0	58.3	62.96	60.0	65.4	57.9	61.6

TABLE 3 SPEED DATA

Station 3 Highway 4 I-74 Location 1.0 Mile East of Post Road

No. of Lanes 3 Type of Surface Portland Cement Concrete Weather Hazy

This Observation Date August 15, 1969 Last Previous Observation (Speed Report No. 86)

Date June 28, 1968 Date June 28, 1968

Time 9:50 - 12:00 p.m. Time 8:00 - 10:30 a.m.

PASSENGER CARS				TRUCKS			
OBSERVATION	All		Non-Indiana		All		5000 pounds or more
	Last	Present	Last	Present	Last	Present	
No. of vehicles obs.	321	264	243	144	78	120	65
Average speed (m.p.h.)	66.6	70.19	65.9	69.6	68.8	70.8	57.9
Standard deviation	6.60	7.41	6.66	7.96	5.94	6.65	6.71
24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44 m.p.h.	0.3	0.4	0.4	0.7	0.0	0.0	0.0
49 m.p.h.	1.9	1.5	2.5	2.1	0.0	0.8	6.2
54 m.p.h.	4.1	3.4	5.4	4.9	0.0	1.7	20.0
59 m.p.h.	10.6	5.7	12.4	6.2	5.1	5.0	60.0
64 m.p.h.	36.5	18.6	40.3	20.1	24.4	16.7	92.3
69 m.p.h.	67.0	46.6	71.6	51.4	52.6	40.8	100
74 m.p.h.	91.0	70.8	92.2	73.6	87.2	67.5	98.1
79 m.p.h.	97.5	93.2	98.4	93.1	94.9	93.3	100
84 m.p.h.	99.4	98.1	99.6	97.2	98.7	99.2	100
89 m.p.h.	99.6	98.9	99.7	97.9	100	100	100
No. of vehicles obs.	171	131	123	74	48	57	27
Average speed	67.2	69.2	66.5	69.4	69.2	69.0	57.0
No. of vehicles obs.	150	133	120	70	30	63	38
Average speed	65.9	71.1	65.4	69.9	68.1	72.5	58.6

Station 4 Highway I-65 Location 7.5 Miles North S.R. 160

No. of Lanes 4 Type of Surface Portland Cement Concrete Weather Hazy

This Observation August 14, 1969 Last Previous Observation (Speed Report No. 86)

Date 1:15 - 2:30 p.m. Date 1:00 - 3:30 p.m.

PASSENGER CARS				TRUCKS								
OBSERVATION	All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.	323	283	154	114	169	169	127	104	29	26	98	78
Average speed (m.p.h.)	66.8	70.25	66.3	69.6	67.2	70.7	58.4	61.38	62.2	64.6	57.3	60.3
Standard deviation	6.01	6.91	6.46	7.28	5.72	6.32	5.25	7.96	5.33	8.34	4.67	7.57
24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
44 m.p.h.	0.3	0.0	0.7	0.0	0.0	0.0	0.0	1.9	0.0	0.0	0.0	2.6
49 m.p.h.	0.6	0.4	1.3	0.9	0.0	0.0	4.7	7.7	0.0	3.8	6.1	9.0
54 m.p.h.	2.8	1.4	3.9	1.8	1.8	1.2	22.8	18.3	6.90	3.8	27.6	23.1
59 m.p.h.	11.5	7.1	11.7	7.9	11.2	6.5	53.4	34.6	24.1	26.9	62.2	37.2
64 m.p.h.	32.5	18.0	37.7	20.2	27.8	16.6	89.8	66.4	65.5	57.7	96.9	69.2
69 m.p.h.	67.2	44.2	69.5	50.0	65.1	40.2	98.4	86.5	93.1	73.1	100	91.0
74 m.p.h.	92.0	73.1	91.6	75.4	92.3	71.6	100	95.2	100	88.5		97.4
79 m.p.h.	98.1	92.2	98.1	91.2	98.2	92.9		98.1		92.3		100
84 m.p.h.	100	97.9	100	97.4	100	98.2		100		100		
89 m.p.h.		98.9		99.1		98.8						
No. of vehicles obs.	146	141	65	62	81	79	52	61	16	13	36	48
Average speed	67.2	70.5	66.7	70.1	67.7	70.9	59.0	62.1	62.4	65.8	57.5	61.1
No. of vehicles obs.	177	142	89	52	88	90	75	43	13	13	62	30
Average speed	66.4	70.0	66.0	69.1	66.8	70.5	58.0	60.4	62.0	63.5	57.1	59.0

TABLE 6 SPEED DATA

Station 6

Highway 4

U.S. 52

Location 1.0 Mile East of S.R. 28

Cloudy

No. of Lanes

This Observation Date July 31, 1969

Top of Surface Asphaltic Concrete

Weather June 28, 1968

Speed Report No. 86

Date July 31, 1969

Time 9:45 - 12:30 p.m.

Last Previous Observation Date June 28, 1968

Time 1:00 - 3:00 p.m.

PASSENGER CARS										TRUCKS					
All										All					
Indiana										Non-Indiana					
Last Present										Last Present					
308 251 70.20 65.1 70.6 5.45 6.33 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0										112 127 69.8 67.1 69.8 5.33 6.16 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0					
No. of vehicles obs. 65.9										70 137 35 58 102					
Average speed (m.p.h.) 5.48										55.3 61.19 59.7 64.8 54.3 59.9					
Standard deviation 0.0										6.25 6.44 6.89 6.85 5.76 5.83					
24 m.p.h. 0.0										0.0 0.0 0.0 0.0 0.0 0.0					
24 m.p.h. 0.0										0.0 0.0 0.0 0.0 0.0 0.0					
34 m.p.h. 0.0										0.0 0.0 0.0 0.0 0.0 0.0					
39 m.p.h. 0.0										1.4 0.7 0.0 0.0 1.7 1.0					
44 m.p.h. 0.0										2.9 0.7 0.0 0.0 3.5 1.0					
49 m.p.h. 0.0										15.7 2.9 8.3 2.9 17.2 2.9					
54 m.p.h. 2.3										47.1 15.3 25.0 14.3 51.7 15.7					
59 m.p.h. 10.4										71.4 38.7 41.7 22.9 77.6 44.1					
64 m.p.h. 41.9										94.3 66.4 75.0 31.4 98.3 78.4					
69 m.p.h. 74.0										100 92.7 100 77.1 100 98.0					
74 m.p.h. 95.5										98.5 94.3 100					
79 m.p.h. 99.0										100					
84 m.p.h. 99.7															
89 m.p.h. 100															
No. of vehicles obs. 148										32 75 4 25 28 50					
Average speed 66.6										56.8 63.4 58.8 65.8 56.5 62.2					
No. of vehicles obs. 160										38 62 8 10 30 52					
Average speed 65.2										54.0 58.6 60.1 62.5 52.3 57.8					



TABLE 7 SPEED DATA

U.S. 41 1.0 Mile North of S.R. 2

Highway 4 Location

Type of Surface

Weather

Portland Cement Concrete

This Observation

No. of Lanes

Station

Cloudy

Last Previous Observation (Speed Report No. 86)

Date

August 6, 1969

Date

No. of Lanes

July 1, 1968

Time

10:45 - 2:15 p.m.

Time

2:00 - 4:30 p.m.

OBSERVATION		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.		252	254	152	136	100	118	102	129	16	26	86	103
Average speed (m.p.h.)		63.8	66.95	62.9	65.9	65.1	68.2	55.4	56.04	57.0	61.2	55.2	54.7
Standard deviation		6.20	8.16	6.31	8.14	5.80	8.04	7.21	7.92	6.56	8.99	7.32	7.09
24 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	1.0	2.3	0.0	0.0	1.2	2.9
44 m.p.h.		0.4	1.6	0.7	0.7	0.0	2.5	10.8	7.0	0.0	3.8	12.8	7.8
49 m.p.h.		2.0	3.2	3.3	2.2	0.0	4.2	20.6	17.8	12.5	11.5	22.1	19.4
54 m.p.h.		7.1	7.1	9.9	8.8	3.0	5.1	40.2	38.8	37.5	19.2	40.7	43.7
59 m.p.h.		18.7	15.0	19.7	19.1	17.0	10.2	66.7	69.8	56.3	38.5	68.6	77.7
64 m.p.h.		59.1	33.1	66.5	41.2	48.0	23.8	91.2	8.68	87.5	65.4	91.9	92.2
69 m.p.h.		84.9	63.9	88.8	69.1	79.0	55.9	99.0	96.9	100	88.5	98.8	99.0
74 m.p.h.		94.4	85.4	95.4	90.4	93.0	79.7	100	98.4		92.3	100	100
79 m.p.h.		97.6	94.1	98.0	96.3	97.0	91.5		99.2		96.2		
84 m.p.h.		99.6	99.2	100	99.3	99.0	99.2		100		100		
89 m.p.h.		100	99.6		99.3		100						
No. of vehicles obs.		130	127	83	66	47	61	49	68	6	16	43	52
Average speed		63.7	67.8	62.9	66.2	65.0	69.4	51.6	55.0	57.0	61.1	50.9	53.1
No. of vehicles obs.		122	127	69	70	53	57	53	61	10	10	43	51
Average speed		63.8	66.2	62.8	65.5	65.2	66.9	59.0	57.2	57.0	61.4	59.4	56.4



TABLE 8 SPEED DATA

Station 8 Highway U.S. 52 1.0 Mile West of Klondike
 No. of Lanes 4 Type of Surface Asphalt concrete Weather Cloudy
 This Observation July 30, 1969 Last Previous Observation July 1, 1968 Speed Report No. 86
 Date 1:35 - 2:45 p.m. Date 9:30 a.m. - 12:00 p.m.
 Time

PASSENGER CARS										TRUCKS					
OBSERVATION	All			Indiana		Non-Indiana				All		Less than 5000 pounds		5000 pounds or more	
	Last	Present		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.	266	284		153	167	113	117	57.3	109	25	27	76	82		
Average speed (m.p.h.)	65.1	65.49		64.3	64.9	66.2	66.3	57.6	60.00	57.6	62.4	57.1	59.2		
Standard deviation	5.74	7.92		5.88	8.34	5.34	7.22	7.2	7.15	8.26	9.60	6.82	6.02		
24 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
29 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
34 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		
39 m.p.h.	0.0	0.0		0.0	0.0	0.0	0.0	1.0	0.9	0.0	3.7	1.3	0.0		
44 m.p.h.	0.0	0.7		0.0	1.2	0.0	0.0	5.0	0.9	8.0	3.7	4.0	0.0		
49 m.p.h.	0.8	3.2		0.7	3.6	0.9	2.6	14.9	6.4	16.0	14.8	14.5	3.7		
54 m.p.h.	4.1	8.4		5.9	11.4	1.8	4.3	33.7	18.4	36.0	18.5	32.9	18.3		
59 m.p.h.	12.0	18.3		15.7	21.0	7.1	14.5	52.5	50.5	52.0	33.3	52.6	56.1		
64 m.p.h.	46.2	39.8		54.9	43.7	34.5	34.2	87.1	73.4	76.0	51.8	90.8	80.5		
69 m.p.h.	76.3	73.2		78.4	73.6	73.5	72.6	94.1	86.2	92.0	70.4	94.7	91.5		
74 m.p.h.	97.0	91.9		98.0	92.2	95.6	91.4	100	97.2	100	92.6	100	98.8		
79 m.p.h.	98.5	95.4		98.7	95.8	98.2	94.9		100		100		100		
84 m.p.h.	100	99.6		100	99.4	100	100								
89 m.p.h.		99.6			99.4										
No. of vehicles obs.	122	140		77	81	45	59	35	56	9	14	26	42		
Average speed	65.5	66.2		64.4	65.6	67.3	67.1	56.8	61.0	56.1	61.4	57.0	60.8		
No. of vehicles obs.	144	144		76	86	68	58	66	53	16	13	50	40		
Average speed	64.8	64.8		64.1	64.3	65.5	65.5	57.5	59.0	58.5	63.4	57.2	57.6		



TABLE 2 SPEED DATA

Station 9 Highway U.S. 41 Location 1.0 Mile North of Boswell

No. of Lanes 2 Type of Surface Portland Cement Concrete Weather Hazy

Date July 17, 1969 Last Previous Observation (Speed Report No. 86)

Time 10:20 - 3:15 P.M. Date June 21, 1968 Time 9:00 - 11:30 a.m.

PASSENGER CARS				TRUCKS			
OBSERVATION	All		Indiana		Non-Indiana		5000 pounds or more
	Last	Present	Last	Present	Last	Present	
No. of vehicles obs.	247	250	145	122	102	128	
Average speed (m.p.h.)	59.5	63.46	58.7	62.6	60.7	64.3	
Standard deviation	7.21	7.57	7.91	8.09	5.91	6.97	
24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	
29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	
34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	
39 m.p.h.	0.0	0.4	0.0	0.8	0.0	0.0	
44 m.p.h.	2.01	0	3.5	3.3	0.0	0.0	
49 m.p.h.	9.3	4.8	13.1	7.4	3.92	2.3	
54 m.p.h.	24.7	12.8	30.3	17.2	16.7	8.6	
59 m.p.h.	47.0	26.0	51.0	29.5	41.2	22.7	
64 m.p.h.	75.7	53.6	77.9	54.1	72.6	53.1	
69 m.p.h.	92.3	80.0	90.3	82.8	95.1	77.3	
74 m.p.h.	99.2	94.4	98.6	95.9	100	93.0	
79 m.p.h.	99.6	99.2	99.3	100		98.4	
84 m.p.h.	100	100	100			100	
89 m.p.h.							
No. of vehicles obs.	121	128	60	61	61	67	
Average speed	60.7	62.3	60.3	61.5	61.2	63.0	
No. of vehicles obs.	125	122	84	61	41	61	
Average speed	58.5	64.7	57.8	63.7	59.9	65.7	



TABLE 10 SPEED DATA

Station	10	Highway	2	U.S. 43	Location	2.0 Miles South of Chalmers	Cloudy
No. of Lanes	Type of Surface		Asphaltic Concrete	Weather		Speed Report No. 86	
	This Observation		July 22, 1969	Last Previous Observation		June 21, 1968	
	Date		10:20 - 2:30 p.m.	Date		2:00 - 5:00 p.m.	
	Time			Time			

PASSENGER CARS				TRUCKS									
OBSERVATION	All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more		
	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	
No. of vehicles obs.	286	261	245	242	41	19	78	119	33	60	45	59	
Average speed (m.p.h.)	62.8	66.95	62.6	66.9	64.2	67.8	55.0	59.67	55.6	64.0	54.6	55.3	
Standard deviation	7.90	9.11	7.97	9.22	7.43	7.70	7.50	7.69	8.36	7.88	6.78	4.31	
24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
39 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
44 m.p.h.	1.1	0.4	1.2	0.4	0.0	0.0	7.7	0.0	12.1	0.0	4.4	0.0	
49 m.p.h.	3.8	0.8	4.1	0.8	2.4	0.0	25.6	3.4	24.2	3.3	26.7	3.4	
54 m.p.h.	15.0	10.0	15.5	10.7	12.2	0.0	48.7	31.9	48.5	11.7	48.9	52.4	
59 m.p.h.	31.1	19.9	32.7	19.8	22.0	21.0	69.2	56.3	60.6	31.7	75.6	81.4	
64 m.p.h.	61.9	38.3	64.1	39.3	48.8	26.3	89.7	74.0	87.9	51.7	91.1	96.6	
69 m.p.h.	81.8	61.3	82.5	62.0	78.1	52.6	98.7	85.7	97.0	73.3	100	98.3	
74 m.p.h.	92.0	82.4	91.8	82.2	92.7	84.2	98.7	96.6	97.0	93.3		100	
79 m.p.h.	97.2	93.1	97.1	93.0	97.6	94.7	100	98.3	100	96.7			
84 m.p.h.	99.0	97.3	98.8	97.1	100	100		100		100			
89 m.p.h.	99.3	94.5	99.2	98.4									
No. of vehicles obs.	163	124	140	112	23	12	43	61	20	31	23	30	
Average speed	61.7	66.0	61.4	66.0	63.7	65.8	55.5	59.8	54.2	64.2	56.6	55.3	
No. of vehicles obs.	123	137	105	130	18	7	35	58	13	29	22	29	
Average speed	64.3	67.8	64.2	67.6	64.8	71.4	54.4	59.6	57.7	63.8	52.5	55.3	
All vehicles				at or less than									



TABLE 11. SPEED DATA

Station 11 Highway 2 U.S. 31 Location 3.0 Miles South of Rochester Weather Cloudy
 No. of Lanes 2 Type of Surface Asphaltic Concrete
 This Observation Date August 4, 1969 Last Previous Observation (Speed Report No.)
 Date June 24, 1968
 Time 10:25 - 2:00 p.m. Time 1:45 - 4:00 p.m.

PASSENGER CARS				TRUCKS								
OBSERVATION	All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.	282	240	209	176	73	64	98	98	45	43	53	55
Average speed (m.p.h.)	61.8	64.19	61.2	64.0	63.5	64.7	54.6	57.6	54.6	57.9	54.6	57.4
Standard deviation	7.09	7.16	6.96	7.41	7.21	6.42	6.85	7.24	8.34	8.09	5.36	6.58
24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	2.2	0.0	0.0	0.0
34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	2.0	1.0	4.4	2.3	0.0	0.0
39 m.p.h.	0.4	0.4	0.5	0.6	0.0	0.0	3.1	2.0	6.7	2.3	0.0	1.8
44 m.p.h.	1.8	0.8	1.9	1.1	1.4	0.0	4.1	5.1	6.7	7.0	1.9	3.6
49 m.p.h.	4.6	2.1	5.3	2.8	2.7	0.0	18.4	11.2	22.2	7.0	15.1	14.6
54 m.p.h.	12.8	8.3	14.4	9.1	8.2	6.2	49.0	28.6	46.7	32.6	50.9	25.4
59 m.p.h.	32.2	23.3	23.9	22.7	24.7	25.0	75.5	56.1	66.7	60.5	83.0	52.7
64 m.p.h.	69.2	52.1	74.2	53.4	54.8	48.4	93.9	84.7	91.1	79.1	96.2	89.1
69 m.p.h.	90.4	77.9	90.9	78.4	89.0	76.6	100	96.9	100	95.4	100	98.2
74 m.p.h.	97.5	93.3	98.6	92.6	94.5	95.3		9.90		97.7		100
79 m.p.h.	98.2	98.3	99.0	98.3	95.9	98.4		100				
84 m.p.h.	98.9	100	99.0	100	98.6	100						
89 m.p.h.	99.7		99.5		100							
No. of vehicles obs.	140	110	97	84	43	26	36	44	17	20	19	24
Average speed	62.5	64.4	62.0	64.6	63.6	63.8	55.2	59.2	54.2	59.4	56.1	59.1
No. of vehicles obs.	142	130	112	92	30	38	62	54	28	23	34	31
Average speed	61.0	64.0	60.5	63.5	63.4	65.3	54.2	56.4	54.8	56.6	53.8	56.2



TABLE 12 SPEED DATA

Station	12	Highway	S.R. 25	Location	0.7 Miles West of Americus
No. of Lanes	2	Type of Surface	Asphaltic Concrete	Weather	Hazy
		This Observation	August 18, 1969	Last Previous Observation (Speed Report No. — 86 —)	
		Date	9:00 - 12:30 p.m.	Date	June 24, 1968
		Time		Time	10:00 a.m. - 12:30 p.m.

OBSERVATION	PASSENGER CARS						TRUCKS					
	All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.	217	235	186	217	31	18	71	104	35	45	36	59
Average speed (m.p.h.)	61.6	63.82	61.4	63.9	63.0	63.4	54.0	56.50	54.9	59.5	53.2	54.2
Standard deviation	6.79	7.62	6.94	7.54	5.77	8.76	6.57	8.19	7.17	9.41	5.90	6.31
24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	1.4	1.9	2.9	2.2	0.0	1.7
44 m.p.h.	0.0	0.8	0.0	0.9	0.0	0.0	7.0	4.8	11.4	4.4	2.8	5.1
49 m.p.h.	2.8	2.6	2.7	1.8	3.2	11.1	22.5	13.5	22.8	6.7	22.2	18.6
54 m.p.h.	15.7	11.9	17.7	11.5	3.2	16.7	52.1	41.4	40.0	26.7	63.9	52.5
59 m.p.h.	40.1	24.3	41.9	24.4	29.0	22.2	77.5	68.3	71.4	57.8	83.3	76.3
64 m.p.h.	69.6	55.7	71.0	56.2	61.3	50.0	95.8	86.5	94.3	75.6	97.2	94.9
69 m.p.h.	88.9	78.7	88.7	78.8	90.3	77.8	98.6	90.4	100	82.7	97.2	96.6
74 m.p.h.	95.4	90.6	95.2	91.2	96.8	83.3	100	96.2		91.1	100	100
79 m.p.h.	99.1	98.3	98.9	98.2	100	100		99.0		97.8		
84 m.p.h.	100	99.6	100	99.5			100		100			
89 m.p.h.		100		100								
No. of vehicles obs.	111	130	95	116	16	14	36	63	18	27	18	36
Average speed	61.5	63.5	61.4	63.6	62.1	62.8	55.1	57.2	54.9	61.1	55.3	54.2
No. of vehicles obs.	106	105	91	101	15	4	35	41	17	18	18	23
Average speed	61.7	64.2	61.3	64.1	63.9	65.5	52.9	55.5	54.9	57.1	51.1	54.2



TABLE 13 SPEED DATA

Station 1, 2, 3, 4 Highway Interstate Location See Individual Stations

No. of Lanes This Observation Type of Surface Last Previous Observation (Speed Report No. 86) Weather

Date Date Date

Time Time Time

PASSENGER CARS				TRUCKS			
OBSERVATION	All		Indiana		Non-Indiana		5000 pounds or more
	Last	Present	Last	Present	Last	Present	
No. of vehicles obs.	1168	1110	742	615	426	495	
Average speed (m.p.h.)	66.8	70.62	66.1	70.2	67.9	71.2	
Standard deviation	6.26	7.07	6.34	7.20	5.98	6.75	
24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	
29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	
34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	
39 m.p.h.	0.1	0.0	0.1	0.0	0.0	0.0	
44 m.p.h.	0.4	0.1	0.7	0.2	0.0	0.0	
49 m.p.h.	1.0	0.4	1.5	0.6	0.2	0.2	
54 m.p.h.	3.3	1.5	4.2	1.6	1.9	1.4	
59 m.p.h.	10.9	6.6	12.1	7.2	8.7	5.9	
64 m.p.h.	33.4	17.0	37.5	18.2	26.8	15.6	
69 m.p.h.	66.9	42.1	71.0	45.4	59.6	37.8	
74 m.p.h.	91.6	70.6	93.0	73.3	89.2	67.3	
79 m.p.h.	97.9	91.5	98.5	92.4	96.7	90.5	
84 m.p.h.	99.7	97.4	99.7	97.1	99.8	97.8	
89 m.p.h.	99.8	99.1	99.7	98.7	100	99.6	
All vehicles at or less than	All		Less than 5000 pounds		5000 pounds or more		
	Last	Present	Last	Present	Last	Present	
24 m.p.h.	444	351	444	351	100	96	255
	58.5	61.36	58.5	61.36	60.5	65.3	59.9
29 m.p.h.	5.85	7.79	5.85	7.79	7.27	8.11	7.13
	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39 m.p.h.	0.2	0.0	0.2	0.0	0.0	0.0	0.0
	1.4	1.4	1.4	1.4	1.0	1.0	1.6
44 m.p.h.	6.1	6.6	6.1	6.6	6.0	3.1	7.8
	22.1	18.8	22.1	18.8	20.0	7.3	23.1
49 m.p.h.	55.9	37.9	55.9	37.9	42.0	21.9	43.9
	87.4	65.0	87.4	65.0	72.0	45.8	72.2
54 m.p.h.	97.5	86.0	97.5	86.0	90.0	67.7	92.9
	99.3	94.9	99.3	94.9	98.0	85.4	98.4
59 m.p.h.	99.8	98.9	99.8	98.9	99.0	95.8	100
	100	99.7	100	99.7	100	99.0	
64 m.p.h.		100		100		100	



TABLE 14. SPEED DATA

Station 5,6,7, & 8 Highway 4 lanes Location See Individual Stations

No. of Lanes This Observation Type of Surface Last Previous Observation (Speed Report No. 86)

Date Date

Time Time

OBSERVATION	PASSENGER CARS						TRUCKS					
	All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.	1103	1078	728	670	375	408	358	484	91	130	267	354
Average speed (m.p.h.)	64.9	67.93	64.2	67.7	66.2	68.2	56.2	59.62	58.4	64.0	55.4	58.0
Standard deviation	6.15	7.65	6.31	7.04	5.61	7.14	6.93	7.72	7.20	8.62	6.68	6.70
24 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
34 m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
39 m.p.h.	0.1	0.0	0.1	0.0	0.0	0.0	0.8	1.0	0.0	0.8	1.1	1.1
44 m.p.h.	0.4	0.6	0.6	0.4	0.0	0.7	6.4	2.5	3.3	1.5	7.5	2.8
49 m.p.h.	1.2	1.8	1.5	1.5	0.5	2.2	17.0	8.3	12.1	7.7	18.7	8.5
54 m.p.h.	4.8	4.7	6.3	5.5	1.9	3.4	39.1	22.9	29.7	14.6	42.3	26.0
59 m.p.h.	15.7	12.4	18.0	14.6	11.2	8.8	65.9	51.0	51.7	27.7	70.8	59.6
64 m.p.h.	48.9	27.6	54.7	30.3	37.6	23.0	89.7	72.5	78.0	46.9	93.6	81.9
69 m.p.h.	77.8	58.2	80.7	59.0	72.0	56.9	97.2	90.3	94.5	73.8	98.1	96.3
74 m.p.h.	95.6	83.8	96.0	83.3	94.7	84.6	100.0	96.9	100.0	90.0	100.0	99.4
79 m.p.h.	98.4	93.8	98.5	94.0	98.1	93.4		99.4		97.7		100.0
84 m.p.h.	99.8	99.0	99.9	98.5	99.7	99.8		99.8		99.2		
89 m.p.h.	100.0	99.8	100.0	99.7	100.0	100.0		100.0		100.0		

All vehicles
at or less than



TABLE 15 SPEED DATA

Station 9,10,11,12 Highway 2 lanes Location See Individual Stations

No. of Lanes Three Type of Surface Asphalt Last Previous Observation (Speed Report No. 86)

Date Date

Time Time

Weather

OBSERVATION		PASSENGER CARS						TRUCKS					
		ALL		Indiana		Non-Indiana		ALL		Less than 5000 pounds		5000 pounds or more	
		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.		1032	986	785	757	247	229	353	467	153	197	200	270
Average speed (m.p.h.)		61.5	64.65	61.2	64.7	62.4	64.6	54.3	57.87	54.4	60.5	54.2	55.9
Standard deviation		7.38	8.04	7.57	8.31	6.69	7.06	6.72	7.84	7.80	8.55	5.79	6.67
24 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.7	0.0	0.0	0.0
34 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.2	2.0	0.5	0.0	0.0
39 m.p.h.		0.1	0.2	0.1	0.3	0.0	0.0	1.7	1.5	3.9	1.0	0.0	1.8
44 m.p.h.		1.3	0.9	1.5	1.2	0.4	0.0	6.5	3.8	9.8	2.5	4.0	4.8
49 m.p.h.		5.1	2.5	5.7	2.6	3.2	2.2	22.1	10.7	23.5	6.6	21.0	13.7
54 m.p.h.		16.9	10.8	18.5	11.6	11.7	7.9	51.6	33.6	48.4	22.3	54.0	41.8
59 m.p.h.		37.1	23.3	38.9	23.4	31.6	23.1	76.9	59.7	70.6	50.2	81.0	66.7
64 m.p.h.		68.8	49.7	71.0	49.8	61.9	49.3	94.6	82.0	92.8	69.0	96.0	91.5
69 m.p.h.		88.2	74.2	87.6	74.0	89.9	75.1	99.4	91.6	99.4	84.3	99.5	97.0
74 m.p.h.		95.9	90.1	95.7	89.4	96.8	92.1	99.7	97.4	99.4	93.9	100	100
79 m.p.h.		98.5	97.2	98.5	96.8	98.4	98.2	100	99.1	100	98.0		
84 m.p.h.		99.4	99.2	99.4	98.9	99.6	100		100				
89 m.p.h.		99.7	99.6	99.6	99.5	100							

All vehicles
at or less than



TABLE 16 SPEED DATA

Station 1 Thru 12 Highway All Systems Location See Individual Station

No. of Lanes This Observation Types of Surface Weather

Date Date

Time Time

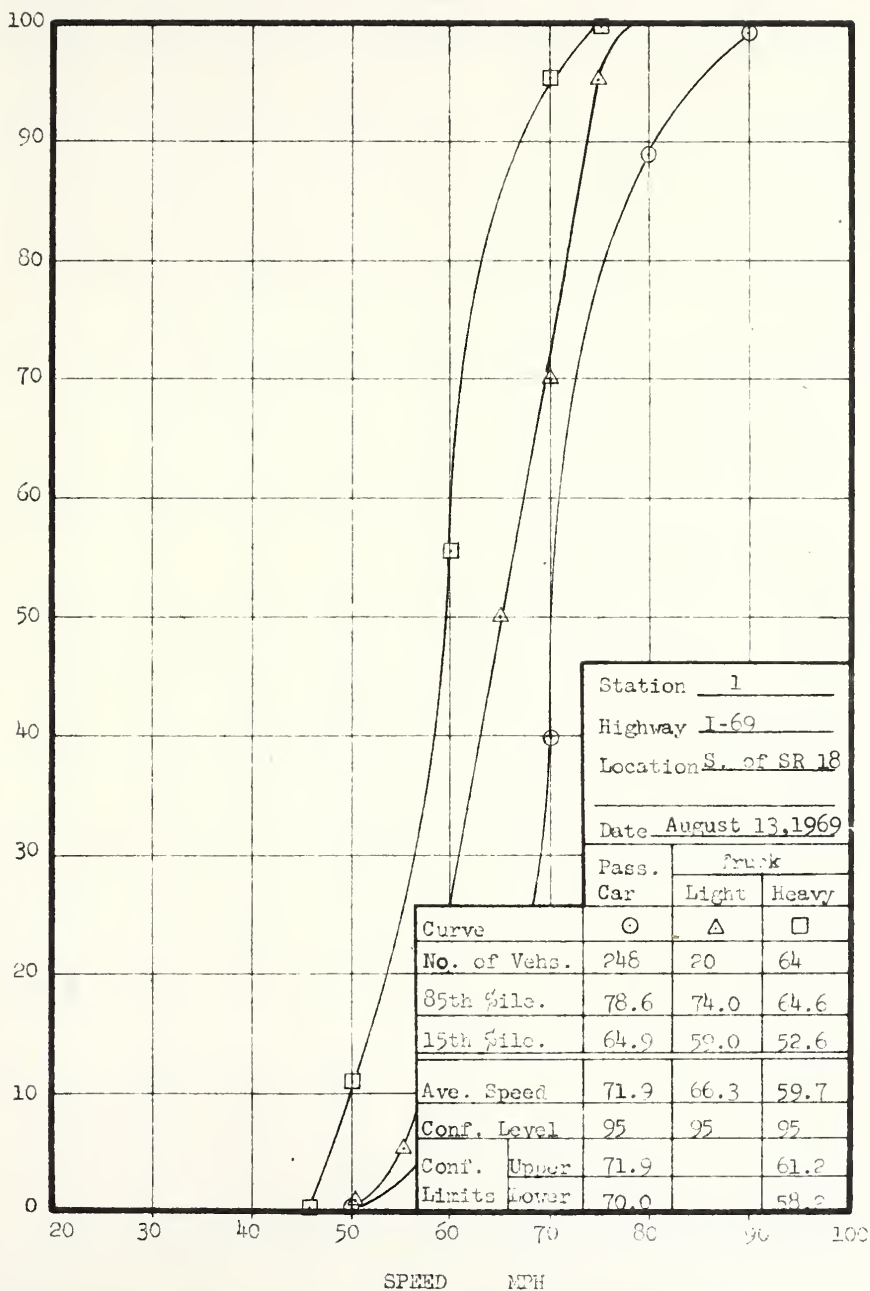
Last Previous Observation (Speed Report No.)

		PASSENGER CARS						TRUCKS					
		All		Indiana		Non-Indiana		All		Less than 5000 pounds		5000 pounds or more	
OBSERVATION		Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
No. of vehicles obs.		3303	3174	2255	2042	1048	1132	1155	1302	344	423	811	879
Average speed (m.p.h.)		64.5	67.85	63.8	67.33	66.0	68.79	56.5	59.46	57.2	62.66	56.2	57.92
Standard deviation		6.94	7.95	7.08	8.21	6.39	7.38	6.70	7.90	7.93	8.70	6.08	6.98
24 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
29 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.0	0.0
34 m.p.h.		0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.1	0.9	0.2	0.0	0.0
39 m.p.h.		0.1	0.5	0.1	0.1	0.0	0.0	0.9	0.9	1.7	0.7	0.5	1.0
44 m.p.h.		0.7	1.5	0.9	0.6	0.0	0.3	4.5	2.7	5.5	1.9	4.1	3.1
49 m.p.h.		2.4	5.5	3.0	1.7	0.1	1.3	14.4	8.7	15.4	6.2	13.9	9.9
54 m.p.h.		8.1	5.5	9.8	6.6	4.2	3.4	36.4	25.6	35.2	6.6	36.9	30.0
59 m.p.h.		20.7	13.8	23.3	15.6	15.0	10.4	65.3	50.6	57.3	36.9	68.7	57.2
64 m.p.h.		49.6	30.8	54.7	33.9	38.7	25.1	90.3	73.9	82.8	57.0	93.5	82.0
69 m.p.h.		77.2	57.5	80.0	60.5	71.2	52.2	98.0	89.6	95.4	77.3	99.1	95.6
74 m.p.h.		94.3	81.1	94.9	82.6	92.9	78.5	99.7	96.5	99.1	90.8	99.9	99.3
79 m.p.h.		98.2	94.0	98.5	94.6	97.6	93.1	99.9	99.2	99.7	94.4	100	100
84 m.p.h.		99.7	98.5	99.7	98.2	99.7	98.9	100	99.8	100	99.5		
89 m.p.h.		99.8	99.5	99.8	99.3	100	99.8		100				

All vehicles
% of vehicles traveling
at or less than

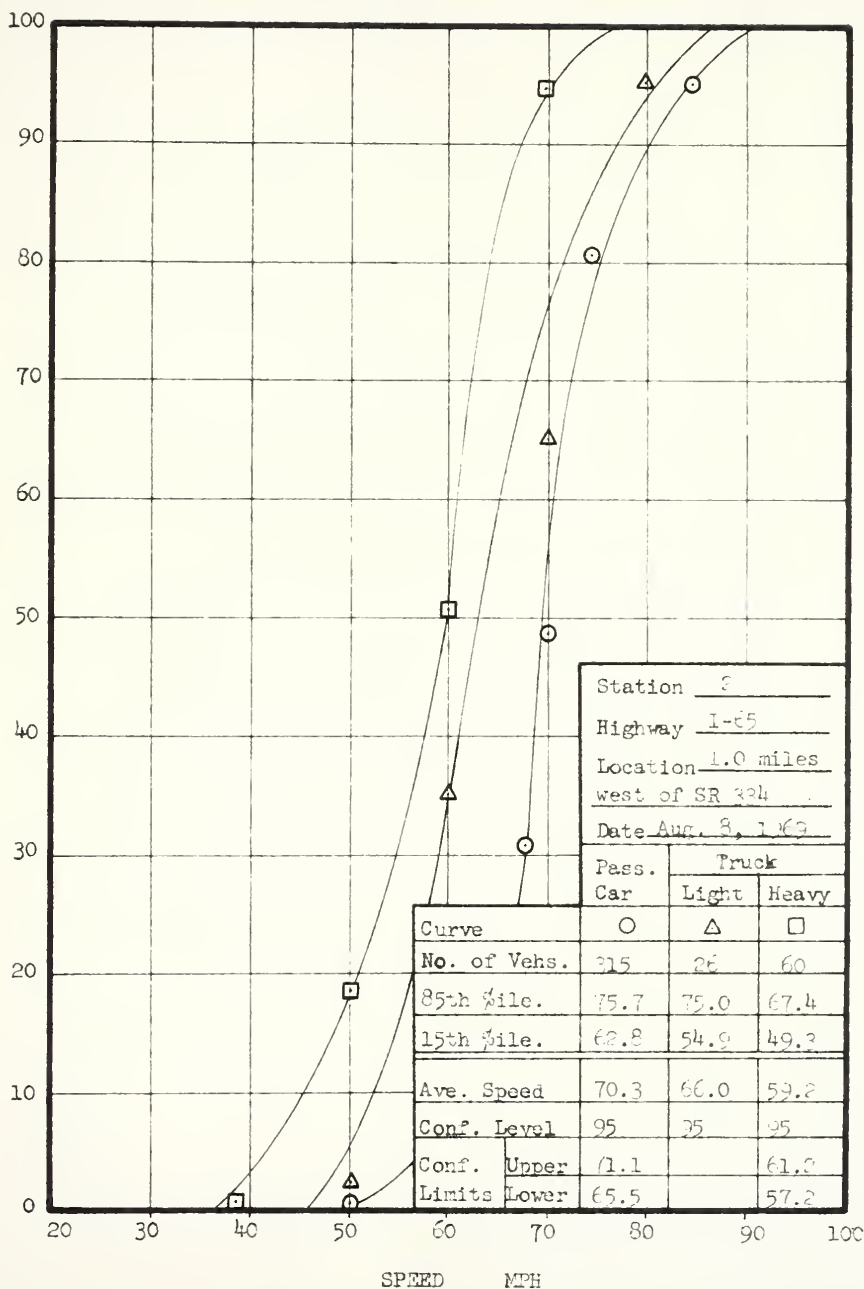


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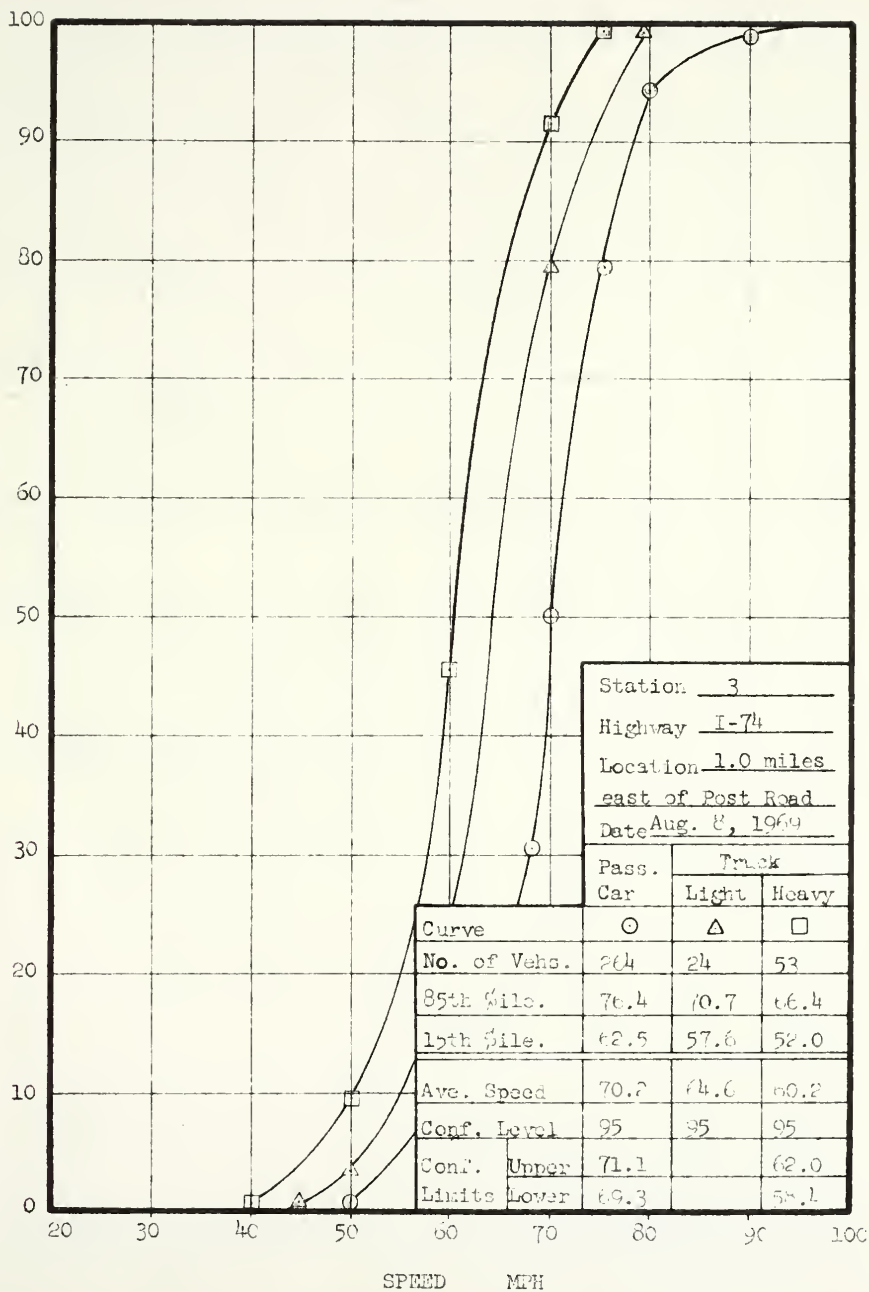


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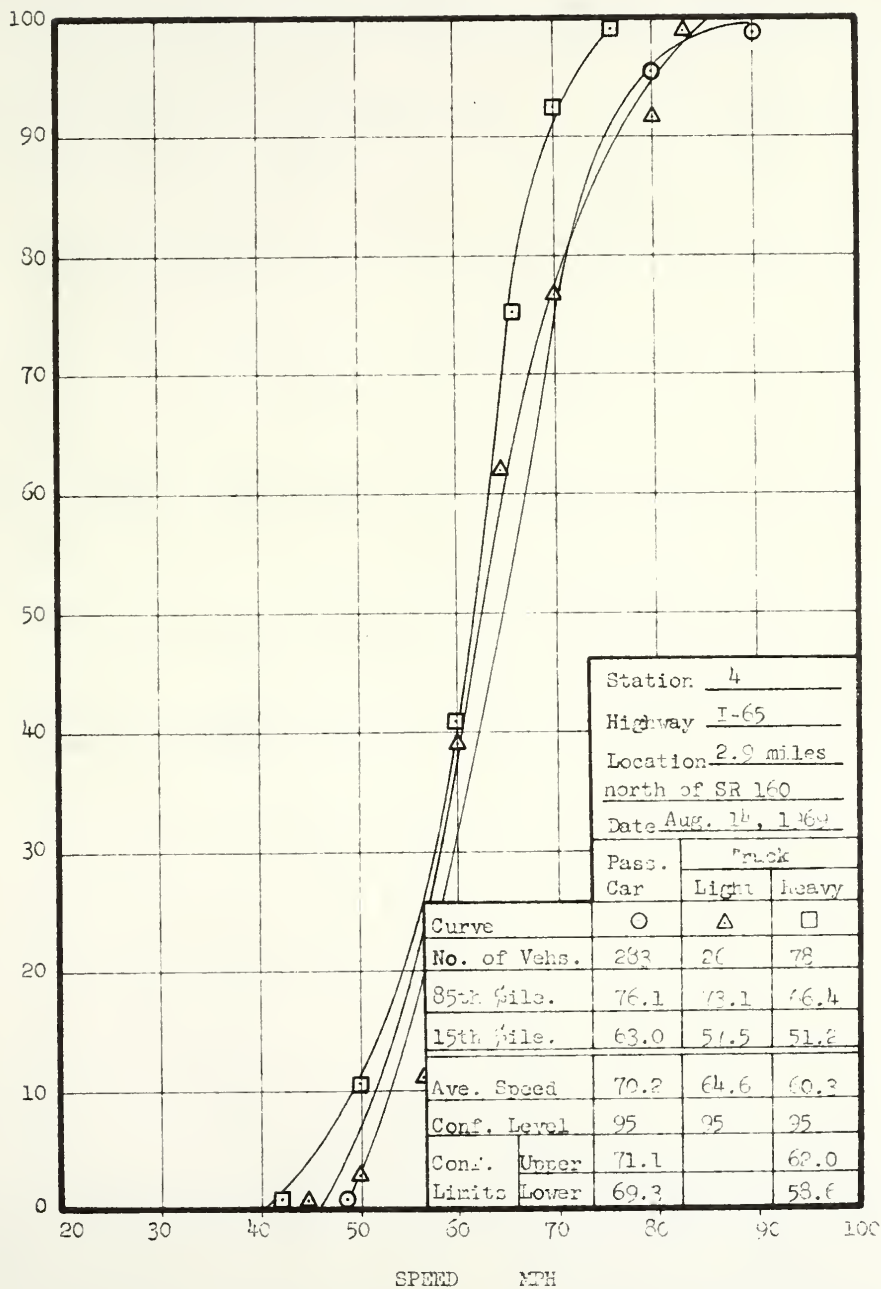


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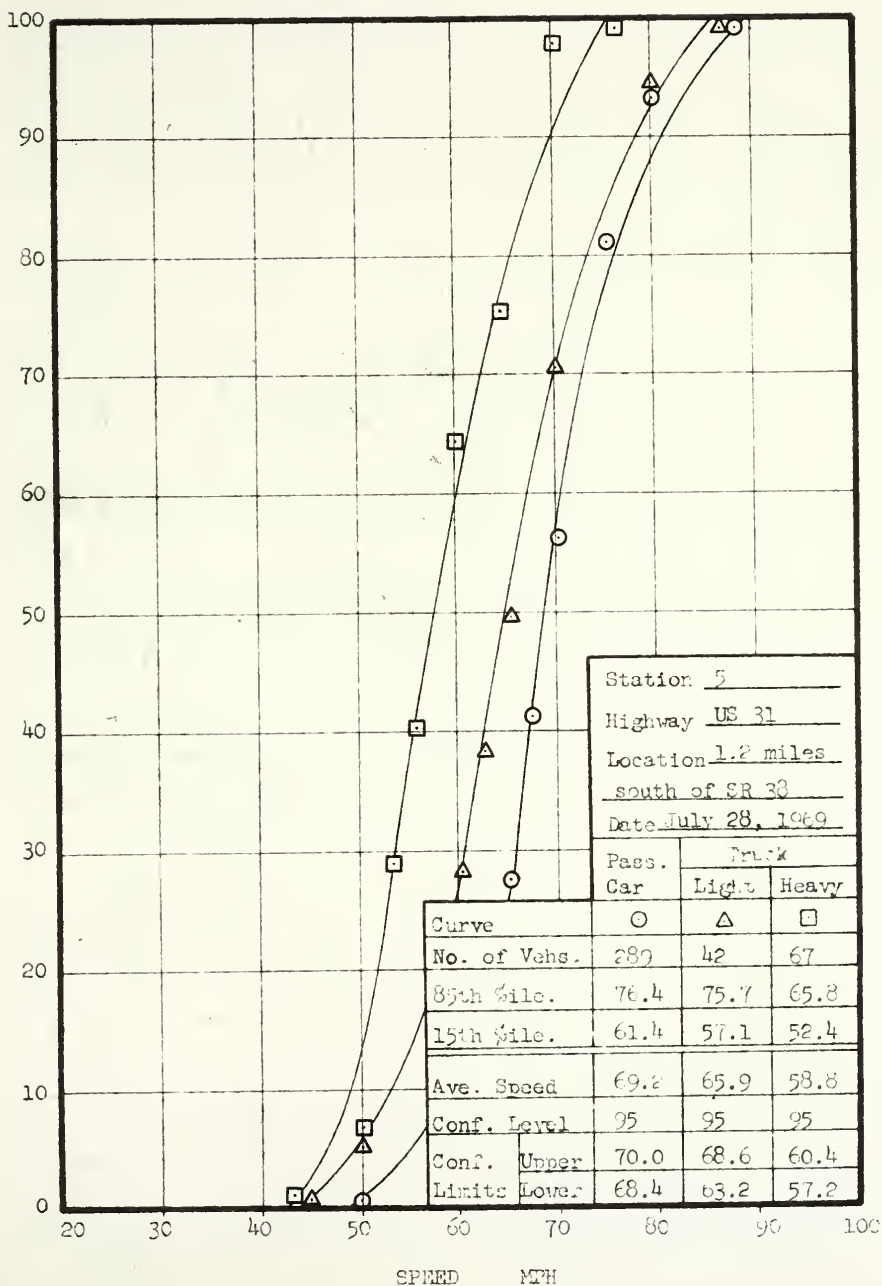


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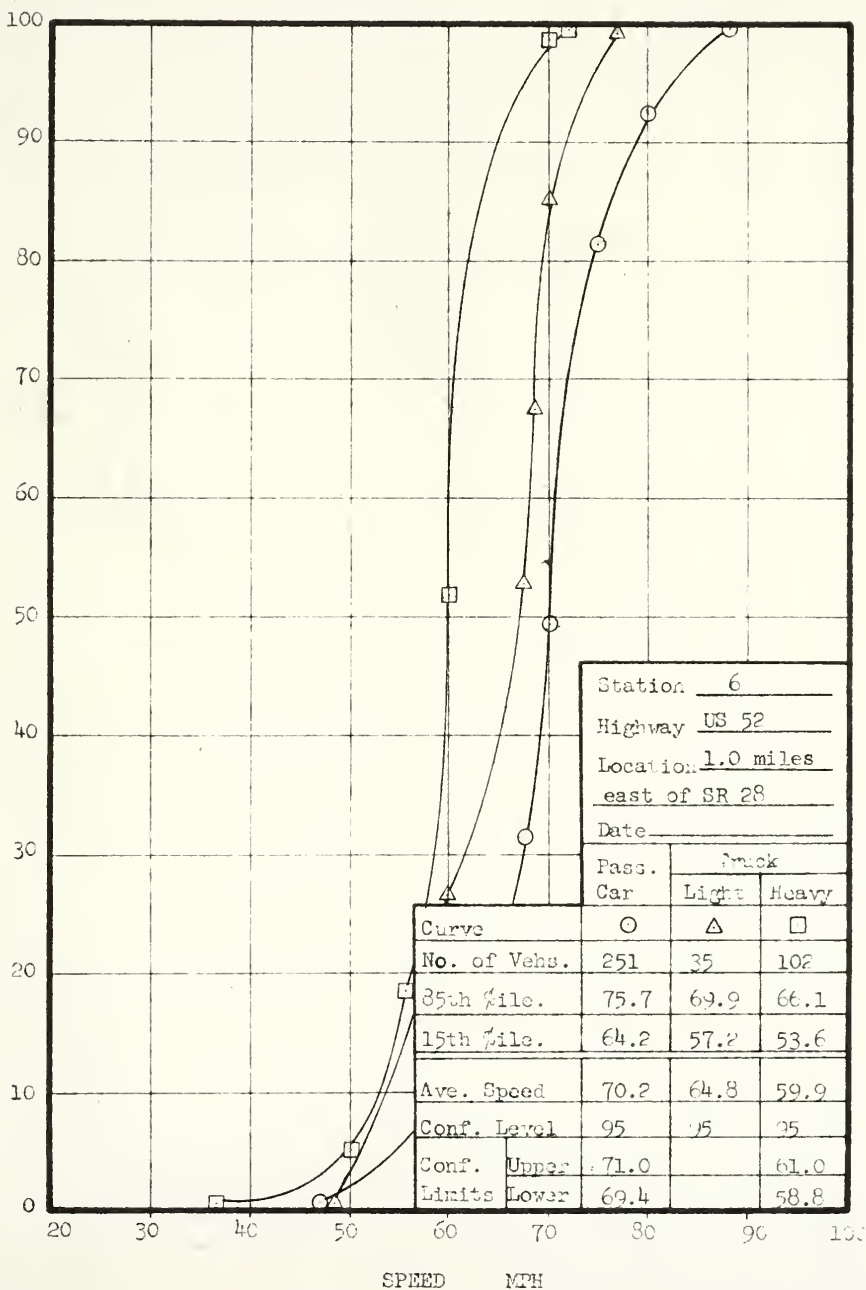


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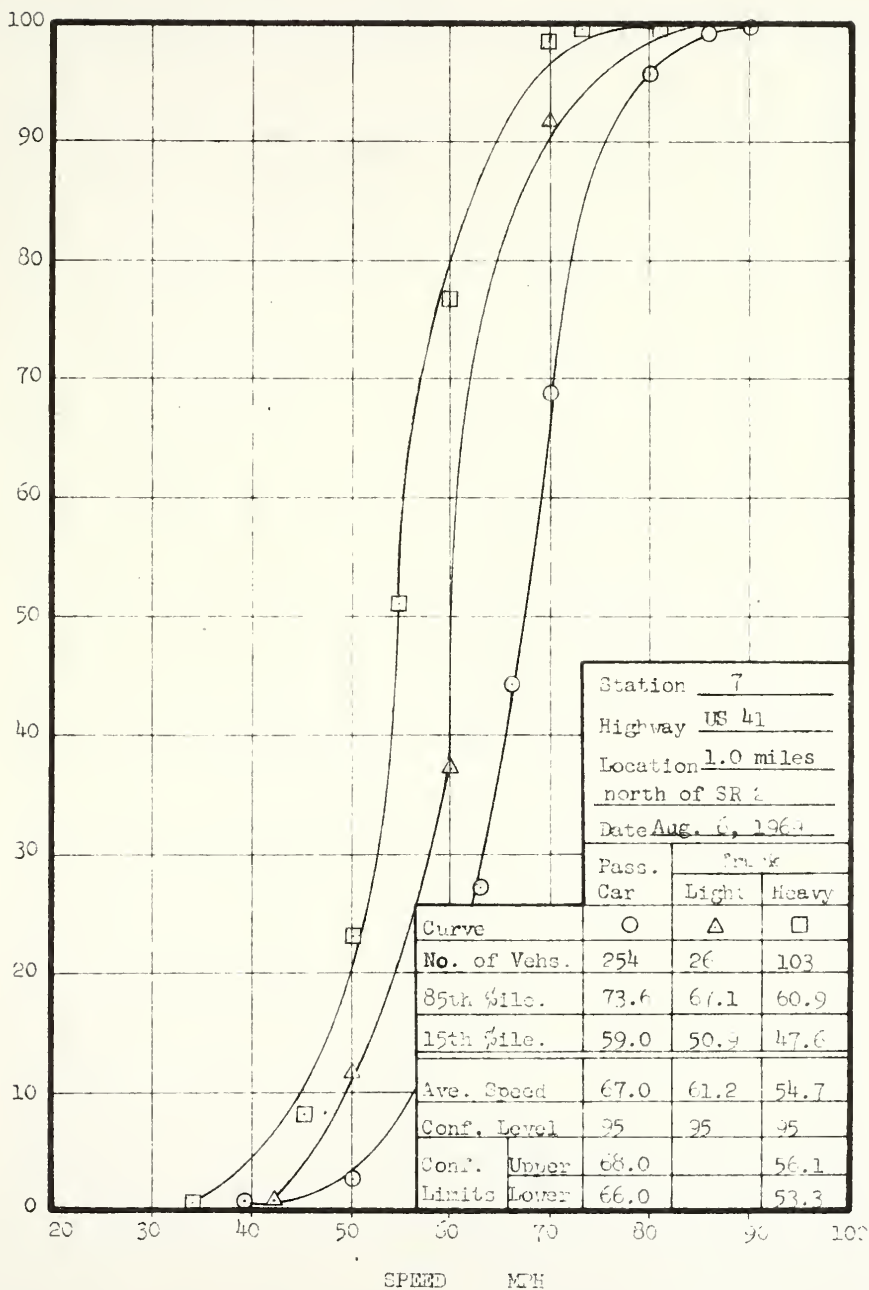


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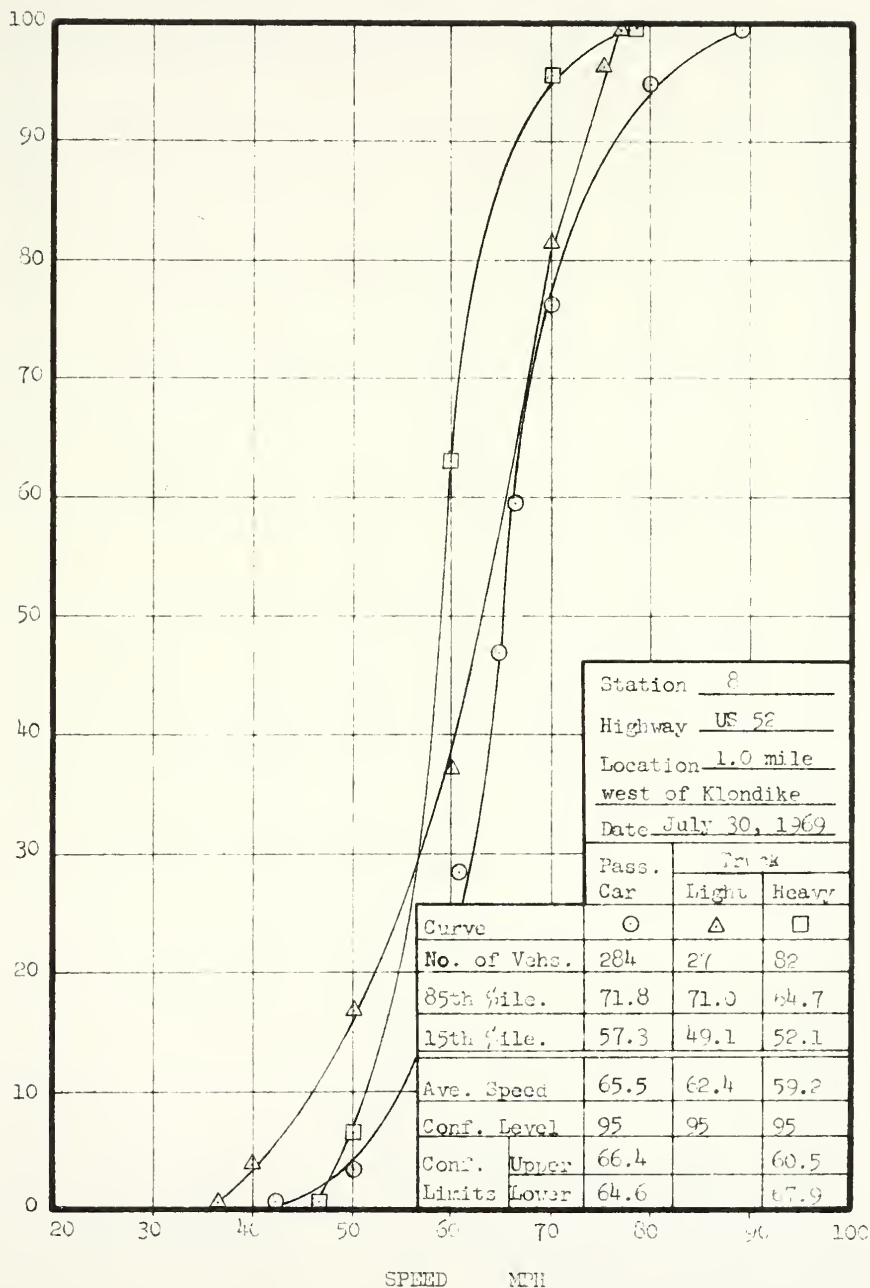


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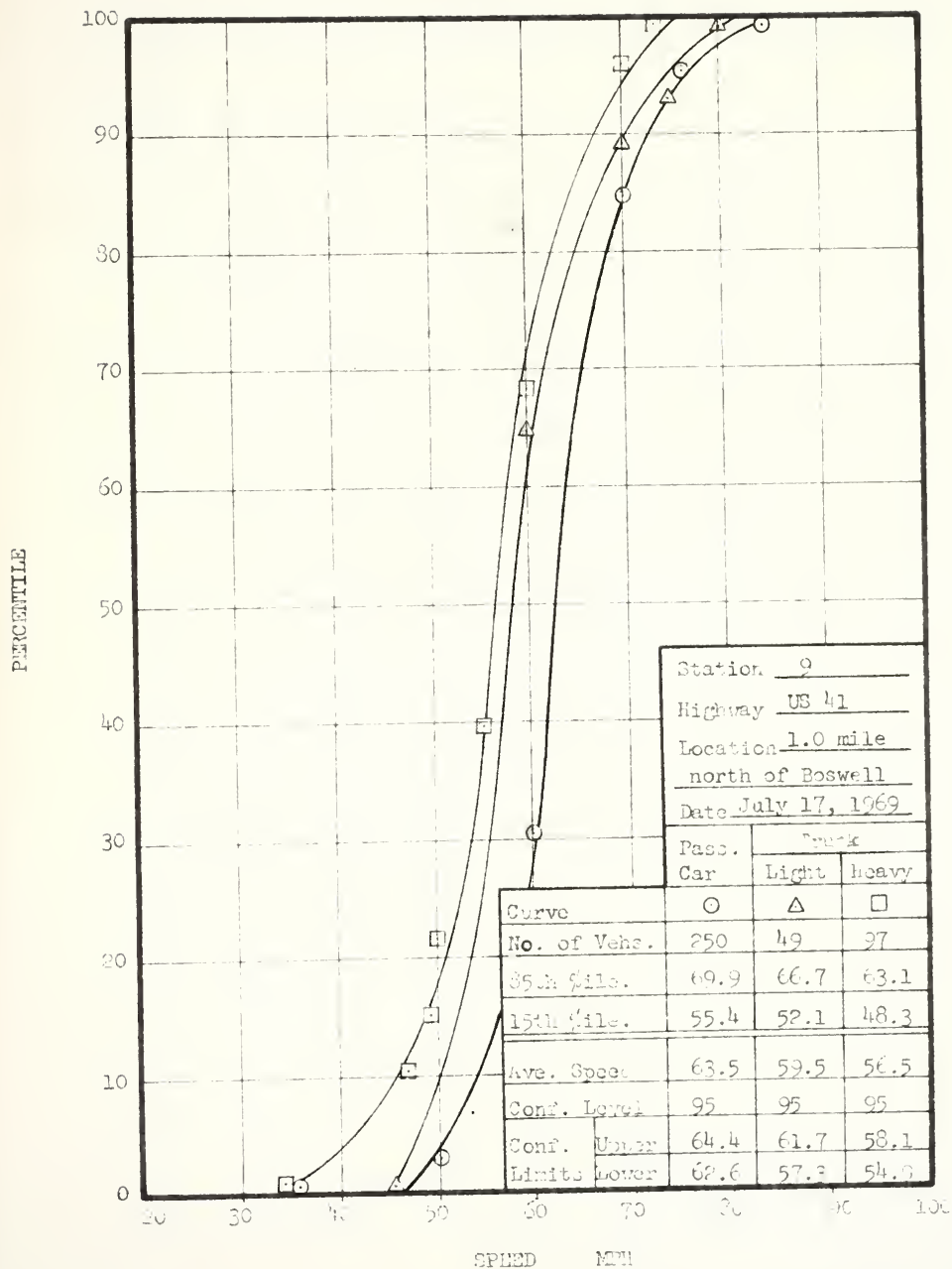




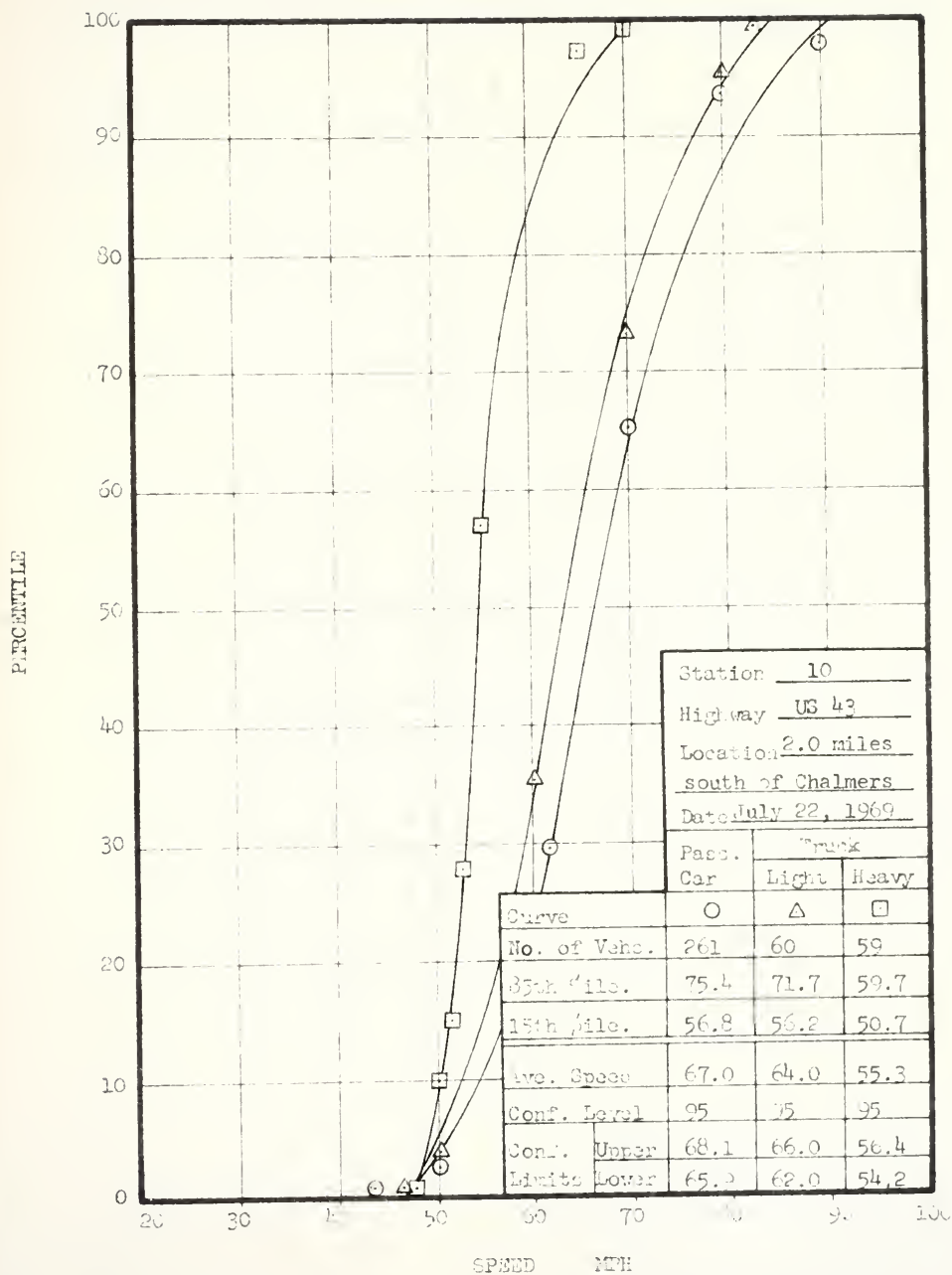
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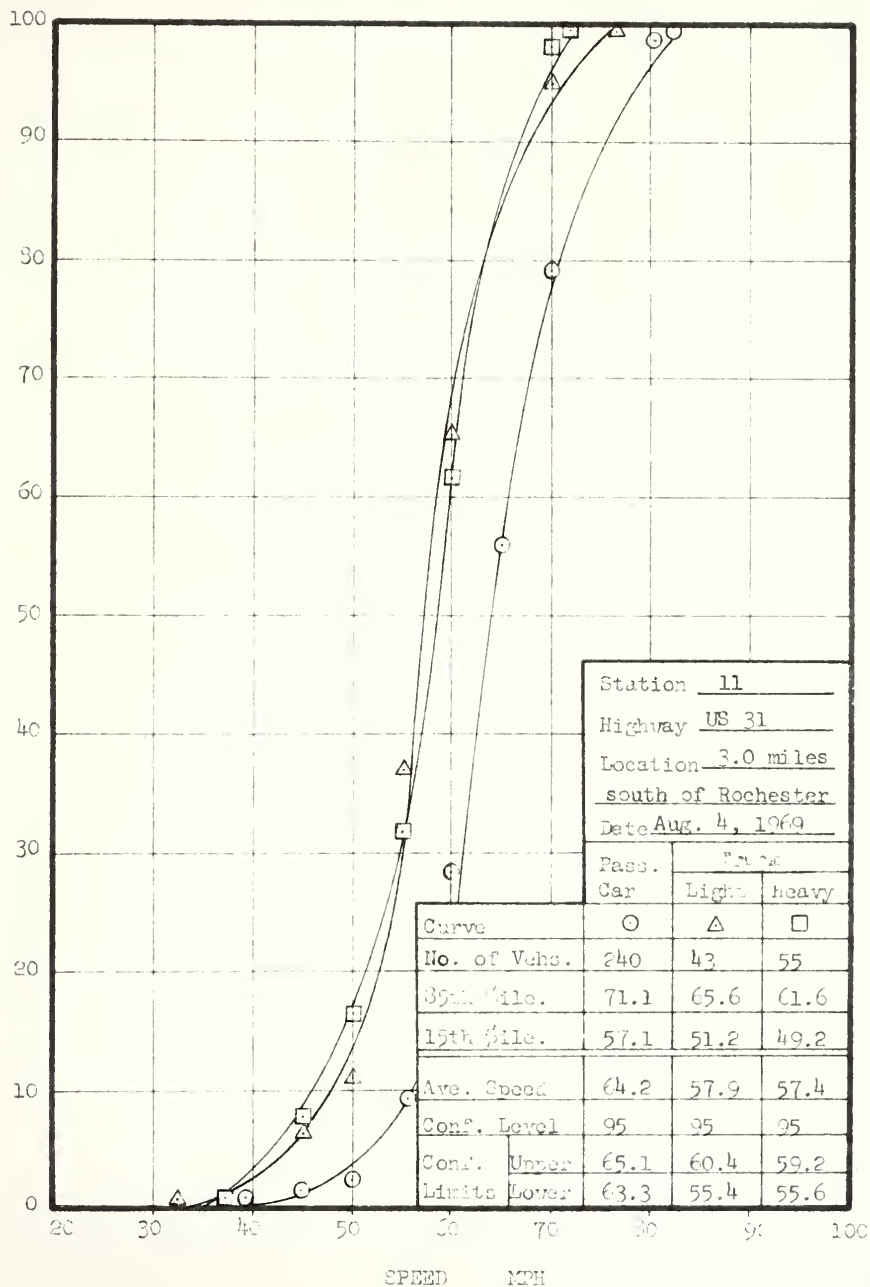






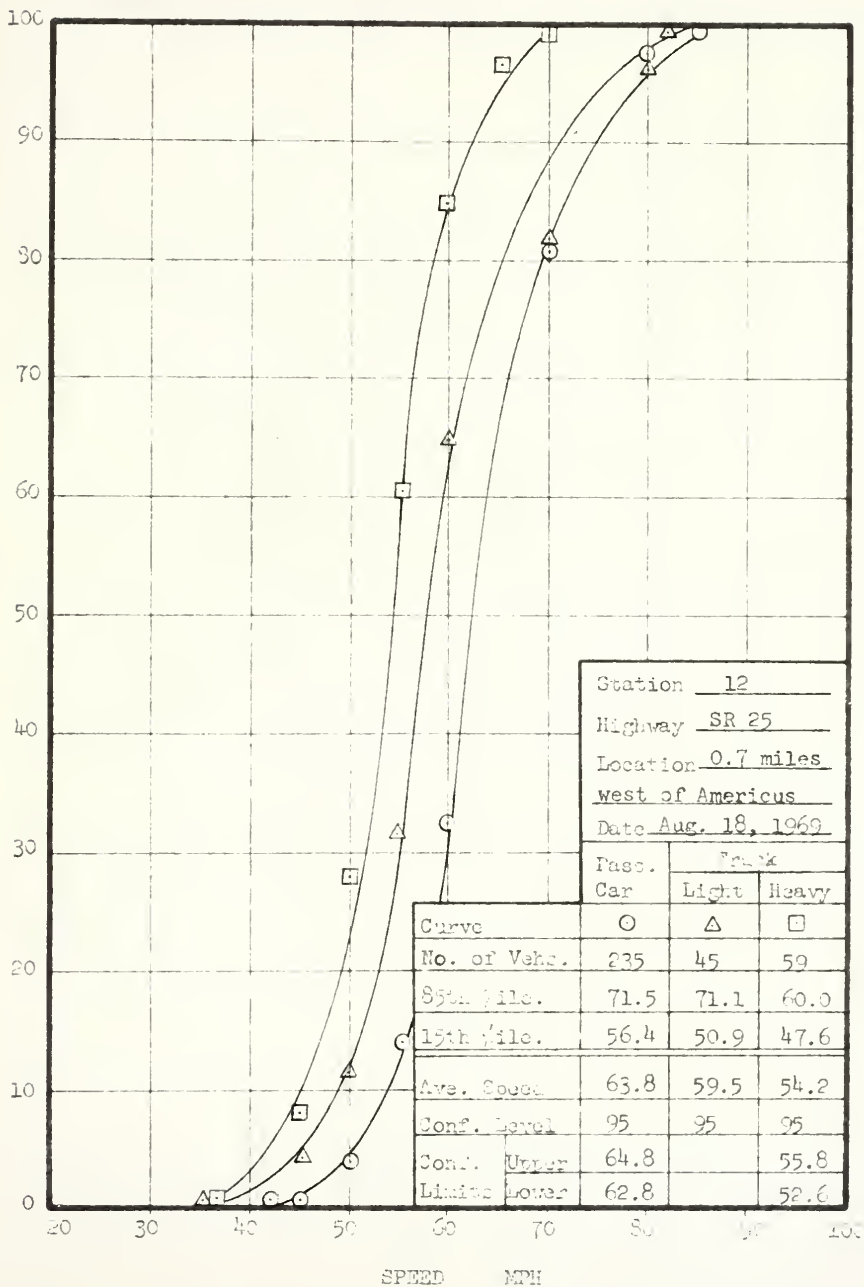


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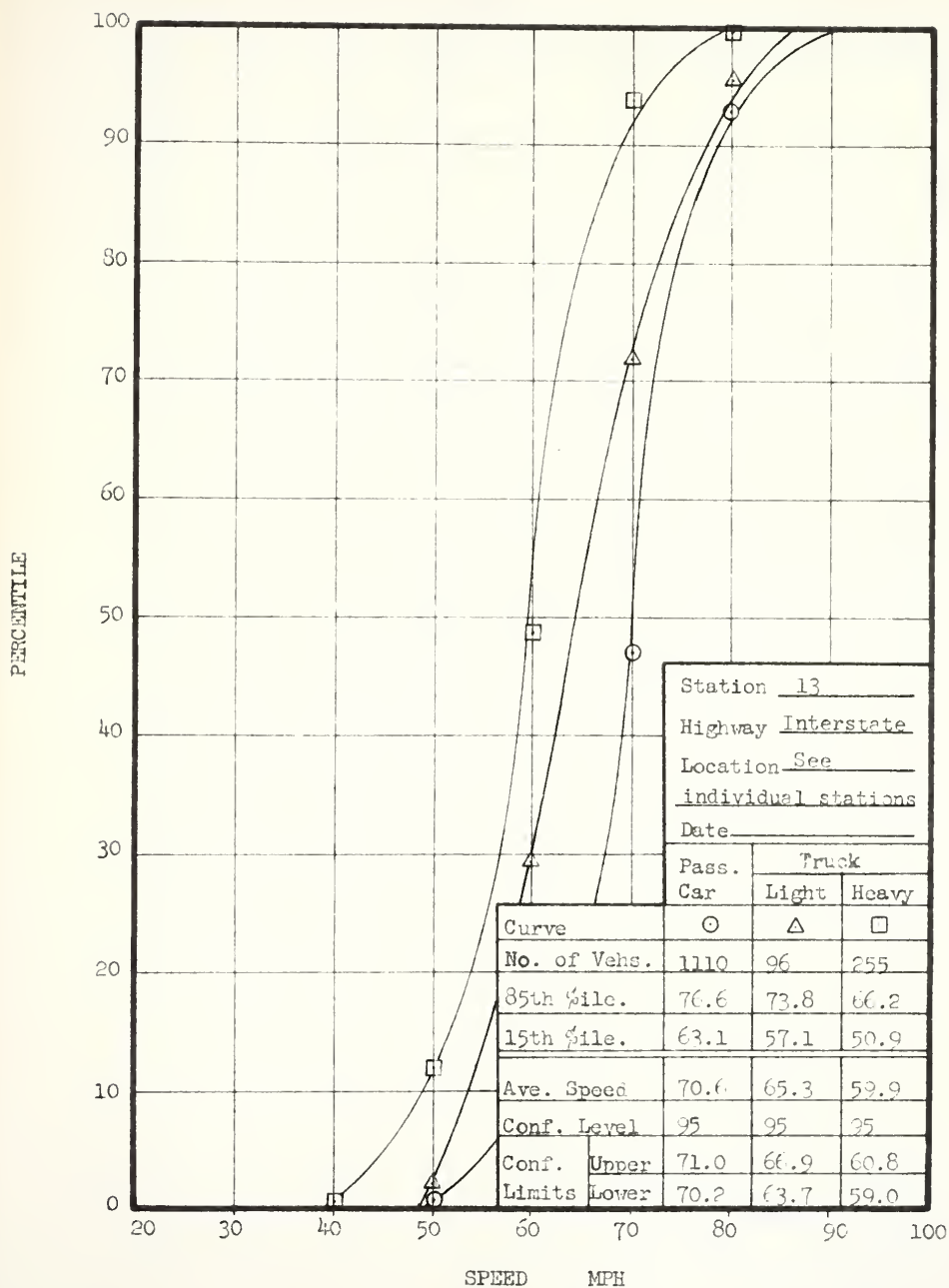




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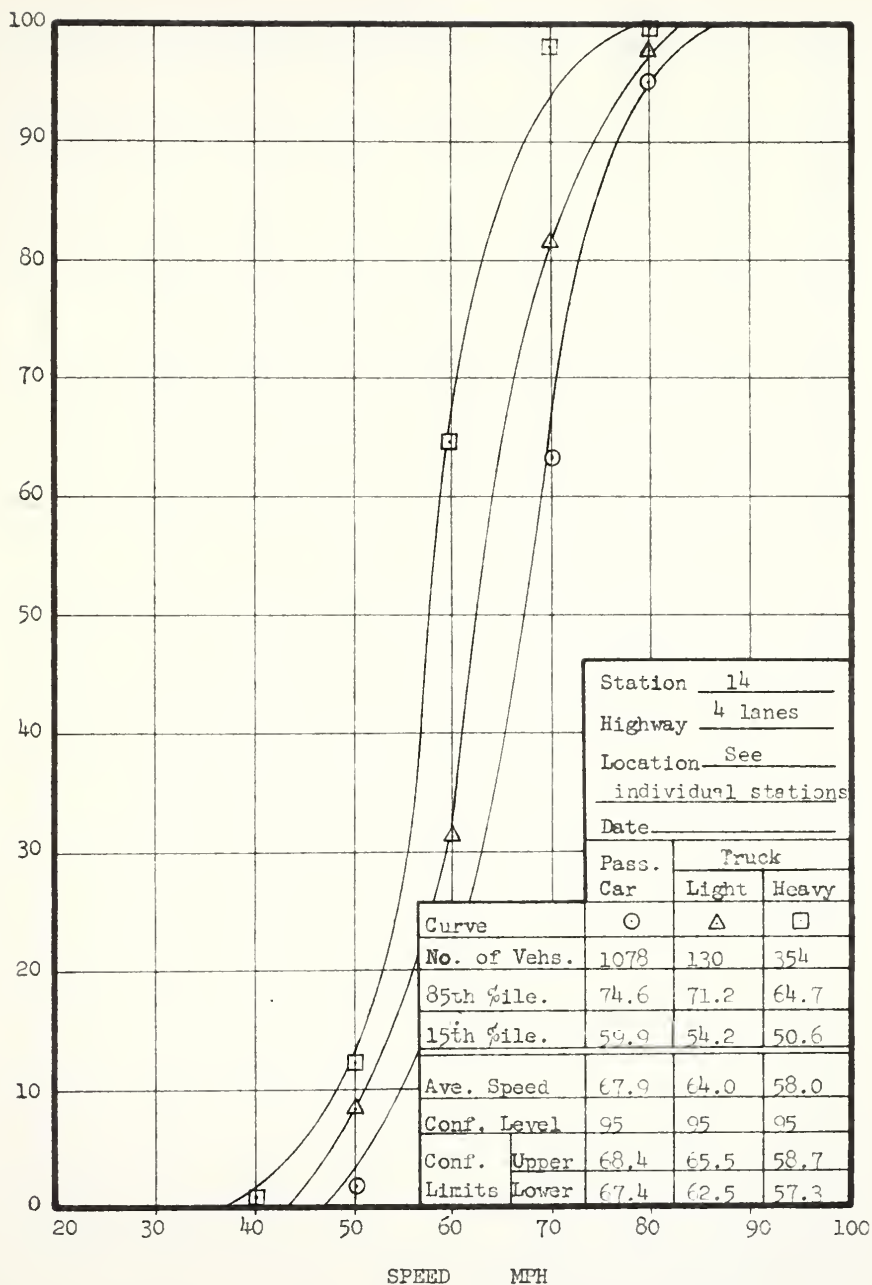






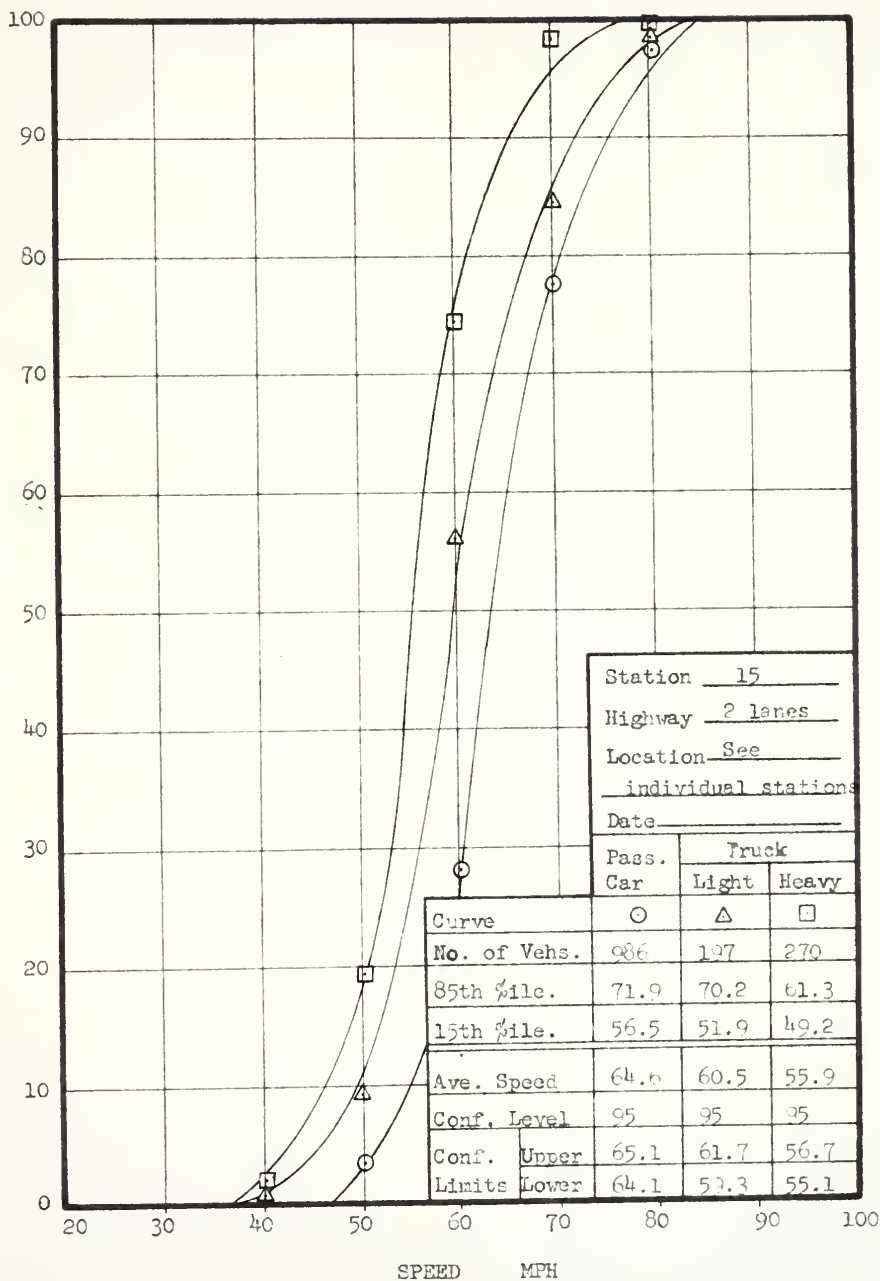


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